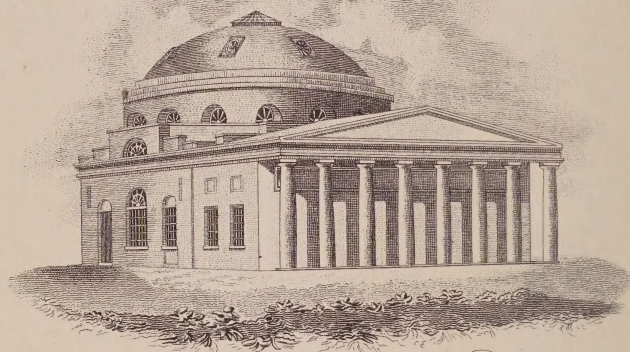




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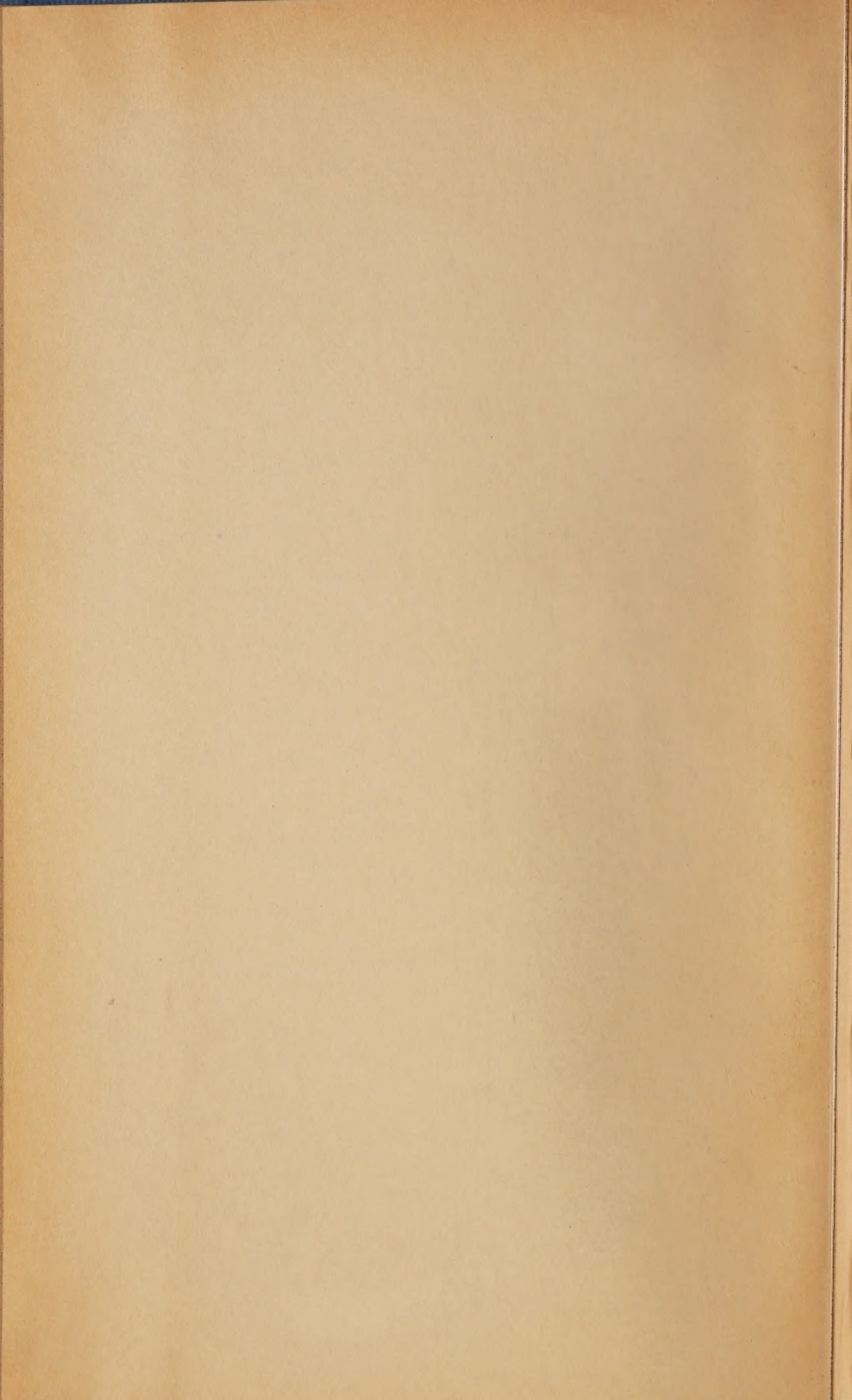














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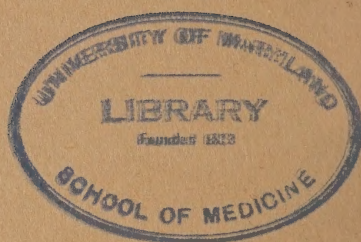
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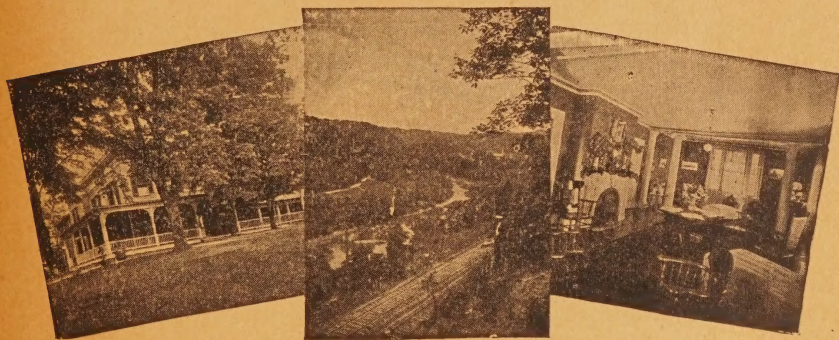
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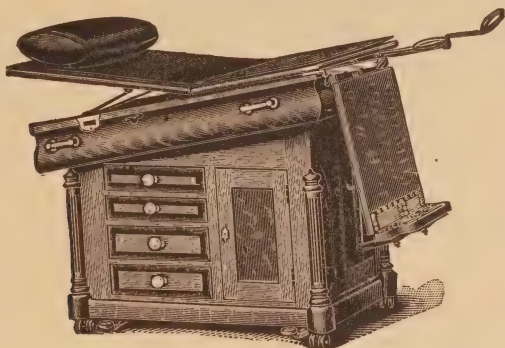
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A SUMMARY ON THE TECHNIQUES EMPLOYED IN THE  
ADMINISTRATION OF SALVARSAN.\*

BY SYLVAN H. LIKES, M. D., BALTIMORE,

*Visiting Physician in Dermatology and Genitourinary Diseases, Hebrew  
Hospital;*

AND

HERBERT SCHOENRICH, PHAR. D., M. D., BALTIMORE,

*Assistant Physician in Dermatology and Genitourinary Diseases, Hebrew  
Hospital.*

*Subcutaneous, Intramuscular, Percutaneous, and Intravenous Methods—  
The Acid, Alkali, and Neutral Media, Suspensions, Emulsions, Advan-  
tages and Disadvantages.*

Since the discovery of salvarsan numerous methods have been advanced for its successful administration. This seems to have been one of the chief stumbling blocks in the earlier days. In administering this remedy, or in fact any remedy, it is always the aim to simplify as much as possible the technique, to prepare and give it in its most efficacious form, the avoidance of unnecessary disability, of prolonged confinement, and pain. The first series of patients seem to have been the victims of considerable pain, suffering, and discomfort; many were incapacitated for a varying length of time, others who were or were not benefited developed conditions of diversified characters, such as necrotic areas, sloughing, abscesses, thrombi, emboli, paralysis, renal, optic, and aural lesions, and even died; moreover, with these unfortunate occurrences, absorption of the remedy in hundreds of cases was exceedingly slow, which tended to hinder the efficacy of the drug, with the consequence that many physicians were at first inclined to

\* Reprinted from the New York Medical Journal for April 20, 1912.

disparage its value when the blame properly belonged to faulty means of administration.

It has been somewhat over a year since Geheimrat Ehrlich gave to the medical world the results of his remarkable discovery of arsenobenzol, and it is gratifying to note the many improvements and modifications made since in its administration, so that to-day, if properly injected, the patients may go directly to their homes, or the process may even be carried out in the home. The injection is absolutely painless. Finally, after the treatment of thousands of cases, the profession has been convinced of its efficacy in that treacherous malady whose ravages are felt throughout the entire world, that its discovery marks an epoch in the history of medicine, and that in properly selected cases it outweighs by far the older methods, such as mercury internally, or used by injection, inunction, or fumigation.

The three familiar methods employed in the administration of salvarsan are the subcutaneous, the intramuscular, and the intravenous. These may be subdivided into the different forms in which salvarsan may be prepared for its respective injection. A percutaneous method has also been employed.

#### THE SUBCUTANEOUS METHOD.

The subcutaneous seems to have had but a limited popularity and has been practically abandoned. This is self evident—it is more or less of a painful procedure, if not immediately following the injection, frequently a few days later. Bad after-effects were entirely too numerous, the dose unreliable, and absorption too slow. To quote Tomaszewski, "It was supposed that the violent reactions were due to the acid or alkaline character of the solution, and the fact was lost sight of that the real cause of these reactions lay in the nature of the remedy itself. Naturally, the irritating properties of salvarsan must appear very prominently when a concentrated suspension is introduced subcutaneously, a method which does not present as favorable conditions for absorption as the intramuscular. This was, indeed, found to be the case. After subcutaneous injections of the neutral emulsion there occurred in from two to three per cent of these cases, and according to some authors, even more frequently, areas of very characteristic softening with extensive tissue necrosis from four to ten weeks after injection." The main advantages maintained



are that it is less painful than the intramuscular, and should symptoms of intoxication arise the substance could be more easily removed.

The subcutaneous and intramuscular methods offer the same preparations of salvarsan for injection and will be discussed under the latter head.

#### THE INTRAMUSCULAR METHOD.

The intramuscular method offers a more favorable means and was the method generally employed in the beginning. The clinical results of thousands of cases treated in this way are most gratifying, the local reactions, however, in a large number (although in proportion not quite as numerous as seen in the subcutaneous), were unsatisfactory and often discouraging; so that lately, owing to the decided advantage of the intravenous, the intramuscular method is also slowly being abandoned. Patients were subjected to violent pains and suffering, to many complications, and, indeed, what has been said with reference to the disadvantages of the subcutaneous method also holds true here, as slow absorption, unreliable doses, etc. In his experience, Hata found that the muscle of chicken became coagulated and formed a "center" from which gradual absorption takes place. Cases have been reported where the remedy became encapsulated, thereby being rendered inert. The severity of the local reaction is dependent upon four factors, namely—the patient; the dose; the site of injection; and the mode of preparation. Naturally a strong, robust, muscular individual will endure an intramuscular injection far better than an anemic, undeveloped, and nervously inclined person. Certainly absorption of any remedy depends largely upon a good circulation, consequently, to expect favorable results from this procedure, it becomes necessary to have the proper subject and not to take all syphilitics as a class. It must not be forgotten that mercury when injected intramuscularly in the proper way and sufficient dose, has cleared up secondary manifestations surprisingly fast, as well as influencing more or less the Wassermann reaction. Personally, we have had this experience with hundreds of cases in previous years. With reference to the dose in connection with the local reaction, views are conflicting. Some observers have seen little or no reaction with apparently large doses, while others witnessed severe reactions, a rash, and other lesions, with comparatively small doses. We are inclined to believe that in many instances the physical condition of the patient was over-

looked, by giving too large doses to physically worn and delicate individuals, in the efforts to bring about a rapid and permanent cure. Therefore, the dose must be in harmony with the physical condition of the patient as well as the extent of the malady. With reference to the site of injection, it will suffice here to say that injections in the neighborhood of the sciatic nerve, and those made too superficially, were responsible for a large proportion of the unfavorable local reactions, especially that of pain. On the other hand, the intramuscular method offers the advantage of simplicity, like almost any injection into the muscle, requiring but a few minutes to prepare and inject, and the few implements necessary for sterilization, so that it may be employed in the city or country, either in the office of the physician or the home of the patient. It may be prepared several hours before injecting, making it possible to convey it some distance. Therefore, it may be advised where the intravenous method is not available or for some reason or other contraindicated.

Intramuscularly, salvarsan has been administered in an alkaline, neutral, and acid medium; in suspension, emulsions, and ointment base. Salvarsan, when dissolved in water, furnishes an acid solution—*biacid solution*; with the addition of one molecular proportion of sodium hydroxide, furnishes a *monacid solution*; with the addition of two molecular proportions of sodium hydroxide, furnishes a *neutral suspension* of the free base; with the addition of three molecular proportions of sodium hydroxide, furnishes an *alkaline suspension*; with the addition of four molecular proportions of sodium hydroxide, furnishes an *alkaline solution*.

However prepared, the substance is perishable, and emphasis must be made regarding the importance of its preparation immediately, or shortly before use. Furthermore, all utensils must be thoroughly sterilized and preferably dry.

The original Alt method consisted of an alkaline solution and was prepared as follows: The powder is rubbed up with 10 cc. of sterile water, to which is added normal sodium hydroxide solution until only a slight residue remains. More sterile water is added sufficient to make 20 cc., of which 10 cc. is injected into each buttock. Technical advances and improved methods have in the course of further working produced a preparation which is less toxic, more soluble, more staple, and as regards to purity has been classed by Ehrlich as *hyperideal*. Whereas it originally



required 20 or 30, or even more cc. of saline with large quantities of sodium hydroxide to effect solution, now, with the modified product, a few cc. of saline with slight excess of alkali will produce a perfectly clear, yellowish fluid. Tomaszewski, in his experience in Lesser's clinic, advises the improved method of Alt, considering it the most practical as well as efficient intramuscular method, namely, salvarsan, the contents of 1 ampoule is dissolved in about 8 cc. of sterile saline; 2.5 or 3 cc. of normal sodium hydrate is added, which is sufficient to form a *cloudy alkaline solution*. In some of our earlier cases, before we adopted the intravenous method, we employed the foregoing formula, and found it superior to the other preparations of salvarsan for intramuscular injections. Infiltrations were slight, if any, with a degree of pain which varied from slight to considerable.

Junkermann modified the Alt method. He takes 6 cc. of sterile water with the powder in a separating funnel, and in order to facilitate solution he introduces a number of small glass beads and shakes the mixture thoroughly. After solution has been effected a 15 per cent solution of sodium hydrate is added by drops until the resulting precipitate is again dissolved. The beads are finally washed with a few cc. of sterile water to avoid losing any of the preparation.

For a while methyl alcohol came into use, and Ehrlich advised moistening the salt with it or with glycol, then triturating with 15 cc. of sterile water and from 2 to 3 cc. decinormal sodium hydrate solution. If alkali is in excess, 1 per cent acetic acid is added, enough to neutralize. As it has been found that methyl alcohol is not without danger it has been abandoned.

The object of the neutral emulsions was primarily to reduce the pain, also the infiltrates usually so pronounced in the acid and especially alkaline media. Theoretically, this seemed very feasible, and in fact for a while was strongly recommended. Experience has shown, however, that much depended upon absolute neutralization, which was by no means easy to effect, as it required skill and experience and unless the solutions were freshly prepared in a hospital or a specially equipped laboratory, the possibilities of defective technique, or too large a volume of fluid, became very imminent. Wechselmann and Michaelis were the first to introduce this method. Wechselmann dissolved the powder in 1 or 2 cc. of a 15 per cent solution of sodium hydrate. To this is added glacial acetic acid by

drops until a fine yellow precipitate forms. This is suspended in few cc. of sterile distilled water and tested with litmus paper, then carefully neutralized with decinormal sodium hydrate or a 1 per cent acetic acid solution as necessary. The neutral suspension is now centrifugalized in order to remove the sodium acetate, which has formed during the process of neutralization. The supernatant fluid is withdrawn and the remainder is suspended in from 4 to 6 cc. of sterile saline.

Michaelis dissolves the powder in hot distilled water and adds enough sodium hydrate to obtain a perfectly clear alkaline solution. Phenolphthalein is added to serve as an indicator for subsequent neutralization with 1 per cent acetic acid. The latter when added causes a fine yellow precipitate of salvarsan.

Blaschko obtained a neutral suspension by using the amount of sodium hydrate computed to exactly neutralize the hydrochloric acid in a given amount of dihydrochloride. The *modus operandi* is similar to that of Ehrlich. The powder is triturated in a mixture of sterile saline and sodium hydrate sufficiently to make a 10 cc. solution. Levy-Bing and Duroeux in a series of cases employed the method of Blaschko, but found it unsatisfactory on account of the local complications and the difficult technique.

Schober publishes the method of Doctor Ravaut, laboratory chief in the Hôpital St. Louis, Paris (also published in *Presse médicale*, December, 1910), as follows: Dissolve the salvarsan in 20 cc. sterile and chemically pure physiological saline solution in an Erlenmeyer flask by the aid of heat over an alcohol flame. Gently shaking the flask, sodium hydrate (about one-third the strength of the liquor natrii caustici) is added drop by drop, until there is complete neutralization. As an indicator, litmus or phenolphthalein is employed.

According to Citron and Mulzer, salvarsan may or may not be moistened with alcohol at first. It is then placed into a 15 cc. syringe and dissolved in 5 cc. of hot water. To this is added 40 drops of a 10 per cent calcium carbonate solution and the mixture is thoroughly shaken. This is now injected into the buttock.

Jessner makes an emulsion of salvarsan by triturating the powder with an 8 per cent solution of sodium bicarbonate. This method seems to have had but a limited popularity.



Pick triturates the powder in a porcelain dish with 9 to 10 drops of the official 15 per cent solution of sodium hydrate. The desired amount, 5 to 10 cc. of sterile water or saline, is then added slowly, with constant stirring. The resulting fluid is now carefully neutralized with acid or alkali as necessary.

In the form of an acid preparation, salvarsan may be dissolved in water (the biacid aqueous solution, 1 to 10), or suspended in an oil. The first mentioned was introduced by Taege and Duhot, who recommended its use. As with some of the other methods, this also acquired unpopularity. Alt and Hoffmann maintained that the acidity had a tendency to affect the heart. In Lesser's clinic late exanthems with unfavorable local reactions played a conspicuous part. Some authorities warn against its use owing to the possibility of acidosis with consequent death. Hata states that it is very slowly absorbed, hence therapeutically inefficient. Presence of annoying pains shortly after the injection also seldom failed to accompany its use. One of the advocates was Spiethoff, who after a series of experiments with the alkaline injections, and the acid injection after Duhot, maintained that the latter was more efficacious.

Taege places the powder in a sterile test tube and adds glycerin in the proportion of two drops to one decigramme, and triturates together with a glass rod. This forms a homogeneous mass. As much of the freshly boiled water, while hot, is added as desired and the mixture again stirred with a glass rod. The remaining fluid is clear and ready for injection.

Duhot rubs up the powder with  $\frac{1}{2}$  cc. of methyl alcohol in a small glass mortar, and adds from 4 to 6 cc. sterile saline according to the dose.

The suspension of salvarsan in oily media was first recommended by Kromayer, Volk, and others. It was their aim to simplify the technique, which up to that time was rather complicated, also to diminish the pain. Indeed, one of the advantages of this method are the economy of time and simplicity in its preparation. Secondly, if kept away from the light it may possibly keep longer than when prepared by the previously mentioned methods. Although this method met with considerable favor, and was highly recommended by its advocates, yet the objections slowly became manifest. As in the other cases, the oil suspensions may also be free from immediate pain, but invariably show a reaction in a few days, often requiring a sedative. Any powder, in order to be therapeutically effective when

injected into the muscle, should either be in solution or, when in suspension, be in a *very fine state of division*. This is not always the case with salvarsan, which when suspended in oils has the tendency to become lumpy or gravitate too rapidly to the bottom of the syringe. Consequently, the needle may become clogged, or the remedy not be satisfactorily distributed in the muscular tissue. Hence the possibilities of indurations, infiltrations, painful swellings, or sloughing, and defective absorption. Attracted by the simplicity of this method, we employed it in a limited number of cases, but found that while the therapeutic effect was good, the local reaction was entirely too severe.

Kromayer triturates the salvarsan with liquid paraffin in a dry mortar and adds sterile water so that 1 cc. of emulsion would represent 0.1 gm. of salvarsan. He began with small injections and finding that they were well tolerated finally gave a full dose, and states that the pain was not greater than an ordinary mercury injection.

Volk suspends the salvarsan in olive oil. He maintains that a vegetable oil is more readily absorbed than a mineral. He preferred the subcutaneous injections, whereas Kromayer followed the intramuscular.

Burke uses a 10 per cent wool fat in olive oil emulsion, as this quantity has been found sufficient to hold salvarsan in suspension, and the oil better tolerated by the tissues. He uses one needle and two syringes. The first syringe is filled with sterile water and connected to the needle, and the puncture made; part of the sterile water is then forced into the tissues, and after waiting a minute the plunger is withdrawn. This draws the water that has been injected back into the syringe, and if a vessel has been punctured the aspirated fluid is blood stained and the emulsion is not injected. If the aspirated fluid is clear, the first syringe is disconnected, leaving the needle in place, and the second syringe containing the remedy connected to the needle and injection then made. Owing to the large percentage of painful injections, which he attributed to part of the salvarsan being dissolved in the water containing the injection (wool fat containing 30 per cent water), which, being an acid solution, is rarely free from pain, Burke modified his original method by changing to anhydrous wool fat, and, instead of injecting the sterile water as referred to above, he substitutes olive oil containing 10 per cent anhydrous wool fat.

Iodipin as a base was recommended by Pollitzer. This preparation con-



tains iodine in oil of sesame. Being a vegetable oil and sterile it is alleged to be superior to the mineral.

Schindler recommends a mixture of lanolin and iodipin. He states this vehicle to be more stable, but refuses to publish the proportions. Under the name of *joha* this preparation is marketed by a druggist in Berlin.

Pasini condemns the acid, alkaline, and neutral preparations as not being altogether painless. He says that salvarsan is hard to suspend in olive oil and paraffin. He makes a paste by triturating salvarsan with a few drops of alcohol. This paste is rendered alkaline by an alcoholic solution of sodium hydrate, then neutralized with acetic acid. Finally suspended in equal parts of wool fat and liquid petrolatum.

The technique of Wolbarst consists of dissolving salvarsan in 10 cc. of hot distilled water, and subsequently neutralizing as nearly as possible with a 4 per cent solution of sodium hydrate.

Using the skin as an absorbing medium was suggested by Hans Leyden, who introduced his "percutaneous method." The essential point here is the proper preparation of the skin so that when salvarsan is applied, absorption readily takes place. The skin is thoroughly washed in order to clean, free it from fat, open the pores, and increase the circulation. Almost any part of the body may be selected, although he suggests the breast, abdomen, or back. He recommends alcoholic soap, fine sand, boiled water, and finally ether. Salvarsan is prepared with glycerin and gently rubbed into the skin with the bare hand which has previously been thoroughly cleaned. In patients whose skin was not prepared, salvarsan was not absorbed, but crumbled in the fingers. In the other cases, however, absorption was perfect. The process lasts about 10 minutes.

#### INTRAVENOUS METHOD.

With the introduction of the intravenous method, we have at our command a method which surpasses all those preceding. Its superiority is an acknowledged fact, and now since the technique has attained such a high degree of perfection, it has been generally accepted as *the method*. Any one who has had experience with the various methods would certainly be inclined to condemn any procedure but the intravenous. The advantages are many: It is absolutely painless, during or after the injection; there

are no infiltrations which may lead to bad after-effects; since the system is saturated in a short time, the remedy has a more powerful toxic effect upon the spirochætæ; the dose can be regulated with a greater degree of accuracy and reliability; the elimination being quicker, permits the administration of a second dose earlier than by any other method. The *modus operandi*, while not exactly simple, is by no means very difficult. Unless the physician has had experience in this particular line of work and has at his office the proper facilities, with available resting quarters, the operation should be preferably carried out in a hospital, since the least break in the technique may lead to disastrous results. The cardinal points are, first, that the fluid when ready for injection should be absolutely clear, slightly alkaline, and of a golden yellow color. It should be free from adventitious particles, like cotton fiber, and when injected be at body temperature. Second, the saline should be made from distilled water and chemically pure sodium chloride, then filtered and boiled. Third, that thorough sterilization of all implements is imperative is well understood and does not need further elaboration. Fourth, the needle must be in good condition, sharp, and free from rust, and be skilfully inserted directly into the lumen of the vein. During the process of injection care should be taken so that no fluid escapes into the subcutaneous tissues. The method advocated originally and still in use by many operators, of dissection and exposure of the vein, we find entirely superfluous. To successfully insert the needle *directly* into the vein requires but little skill and practice, and it is only perhaps in an exceptional case, where the veins are obscure, that venesection becomes necessary. The dissection and exposure of the vein prolongs the procedure, necessitates the use of a local anesthetic, and resulting "tell tale" scar will be exceedingly objectionable to most patients.

Iverson, Schreiber, and Weingart were the first to employ this method.

Iverson first administered the combined intravenous and intramuscular injection, the object being to have a rapid effect upon the spirochætæ, and at the same time to have a continuous action of the medicament. He first gives the intravenous, which is rapidly absorbed and excreted with destructive action on the spirochætæ; second, the intramuscular, which is absorbed and excreted more slowly (8 to 14 days). The action is not as violent, but of longer duration.

Whereas, in the preceding methods the difference rests in the various ways of mixing the powder, here, on the contrary, its preparation follows



one standard formula as suggested by Ehrlich. The directions, which accompany every ampoule of salvarsan and to which reference has repeatedly been made in the current medical literature, will be omitted here. The fluid may be injected by aid of the force of gravity, or by a syringe. In either case the technique is more or less similar to that of a saline infusion.

Schreiber mixes the salvarsan in a graduated glass cylinder of 250 cc. capacity, with glass stopper and narrow neck. He uses a simple 20 cc. Luer syringe with a two-way stopcock, one which leads to the salvarsan and the other to the vein. The needle is bayonet form with a small thumb plate.

Schober, of the Hôpital St. Louis, Paris, prepares his solution as if for his intramuscular method, with the exception of adding a slight excess of alkali in order to perfect complete solution, and enough saline to make the required quantity. His apparatus consists of a Florence flask perforated at the bottom, to which is connected the rubber tubing which leads to the needle. The stopper of the flask is perforated, which leads to a rubber compression bulb, pressure on which naturally induces the flow of the solution.

Wechselmann employs a device which is better understood illustrated than explained. The apparatus has four outlets, *a, b, c, d*. At *a* there is a glass stopper. The extremity *b* is placed into the salvarsan solution. To *c* is connected the rubber tubing to which the needle is attached, and to *d* a piston syringe is connected by means of rubber tubing. By manipulating the syringe the small ball valves *e* and *f* work automatically. The glass stopper at *a* is hollowed, which acts as a possible air receptor. The apparatus is first filled with saline. After all air has been expelled and all is in good working order, it is placed into the beaker containing the salvarsan.

Stapler improvises a "glass needle." He takes a broken platinum needle about  $2\frac{1}{2}$  cm. long with medium size lumen, and fuses it to a small caliber, through a thick glass tube over a Bunsen burner, so that about 1.5 cm. of the needle projects. The advantages he asserts are: That it is easily ascertained whether or not the needle has properly penetrated the vein by the immediate appearance of blood in the glass tube; second, the recognition of the absence of air; third, that the thick glass against the skin serves as a support to the steadiness of the needle. The needle is connected with

rubber tubing which in turn is connected to a graduated gravity infusion apparatus in which the salvarsan is prepared.

A simple gravity apparatus is that suggested by Ballanger (see *New York Medical Journal*, April 29, 1911). He constructs two graduated flasks, one containing physiological salt solution and the other salvarsan. By means of rubber tubing these flasks are connected at the bottom to a three-way stopcock. Each rubber tube is fitted with a window. The procedure is simple, the air having been expelled with the saline, the stopcock is turned to admit the flow of salvarsan.

In order to maintain the proper temperature of salvarsan when injected, Uhle and Mackinney have improvised a "vacuum burette." It consists of a smaller bottle, of 300 cc. capacity, within a larger bottle, joined at both extremities. There is a space of about one quarter inch between the two bottles, which is exhausted of air. The upper end of the inner bottle extends into the form of a neck and is fitted with a glass stopper. The lower end consists of a pipette and stopcock to which are connected the rubber tubing and needle. The burette is filled with 200 cc. warm saline, enough of which is permitted to flow through the rubber tube in order to expel all air. A concentrated solution is now added and enough saline to make up the required quantity.

Stühmer simplifies the technique by constructing an apparatus, the manipulation of which necessitates the service of only one man; a piston syringe with a two-way stopcock (T-shape). To one end is connected the needle, to the other a short rubber tube that leads to the salvarsan. The syringe is manipulated with the right hand, whereas the left guides and steadies the needle. He has a special wire device in which the beaker containing the salvarsan rests on an angle. This is placed next to the syringe.

Kilbane describes a very simple apparatus which eliminates the pouring and repouring of the solution. It consists of a 300 cc. flask graduated at 20 cc. and at 250 cc., and a tight rubber-fitting stopper with two holes. Into one hole is placed a short glass tube projecting 2 inches above the stopper. The lower end of this tube is flanged to prevent the tube from dropping, from the stopper when the flask is inverted. Into the other hole is placed the long curved tube with the outer end plugged with cotton, the cotton acting as a filter. The inner end of this tube extends almost to the bottom of the flask. This tube is intended to act as a vent. To the shorter



tube is attached one end of a 3-foot length of rubber tubing, and to the other end of the rubber tubing is attached the needle. The salvarsan is mixed in the flask, after which the stopper is inserted, the rubber tube attached, and the flask inverted.

Bayly constructs an apparatus which consists of a container surrounded by a hot water jacket. The fluid is injected by the force of gravity.

Rytina employs an apparatus consisting of a 50 cc. syringe, with an asbestos plunger. To this is connected a T-shape stopcock which connects with the needle and a solution jar by rubber tubing. The solution jar has a graduated capacity of 200 cc., with a metal cap having two openings, and a special sliding device. Into the larger opening is fitted the funnel, while the smaller receives the inlet tubing.

The apparatus employed by Wolbarst is a modification of Iverson's method. It consists of an Erlenmeyer flask, having a capacity of 500 cc. The flask is fitted with a rubber stopper, covered by a nickel plated cap. Two glass tubes, one short, the other long, pass through the stopper and cap. Both tubes are bent outside the flask, to which rubber tubing is attached. The needle is connected to one tube, whereas to the other is attached a rubber compression bulb. A glass stopcock is fitted to the rubber tubing that leads to the needle, while the tubing leading to the bulb is fitted with a cotton air filter inclosed in a glass tube. The entire *modus operandi* is extremely simple and practical.

The apparatus employed by the authors is also very simple, and consists of a graduated syringe, with metal plunger and slip-on joints. Syringes or joints fitted with leather or rubber washers will not permit of proper sterilization, the syringe soon becoming leaky and no longer air-tight. A detachable two-way stopcock, two pieces of rubber tubing about 30 cm. in length, a glass rod, pipette, and 250 cc. graduate minim glass, and two medicine glasses. The ampoule of salvarsan is placed in one of the medicine glasses previously filled with alcohol. The powder is prepared in the graduate according to the official directions. The advantages of the graduate are, first, mixing the powder in this receptacle prevents pouring and repouring, all of which helps to contaminate the fluid. Second, being of thick glass, and being used immediately after sterilization, it maintains the heat of the salvarsan solution more uniformly and longer than a thin beaker, or it may be conveniently placed in a basin of warm water during

the process of injection. Third, it is simple, inexpensive, and can be purchased in almost any drug store at any time. The stopcock is connected to the syringe, and the rubber tubes to the stopcock. By introducing the tube ends into the medicine glass, which has been previously filled with saline, the syringe and rubber tubes are filled with the latter, and so manipulated as to expel all air. To one rubber tube is attached the needle, and the other is placed in the salvarsan solution. Thus the operation is simple; one operator holds the needle very steadily, whereas the other manipulates the syringe.

While the writers in this article have not attempted to mention every method advanced for the administration of salvarsan, the leading and more important ones, and particularly those which have had more or less general use, have been described. We hope that this summary of methods and technique will be found useful to those interested in this new and highly efficient remedy, as well as call attention to the superiority of the intravenous method now almost universally adopted.

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EXPERIENCE WITH SALVARSAN, WITH SPECIAL  
REFERENCE TO ITS RELATION TO THE  
WASSERMANN REACTION.\*

By SYLVAN H. LIKES, M. D., BALTIMORE,

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AND

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*Assistant Physician in Dermatology and Genitourinary Diseases, Hebrew  
Hospital.*

Salvarsan has now been in general use almost a sufficiently long time to commence to draw conclusions concerning its actual curative value, particularly as regards its superiority to the older methods. All efforts in the past to determine the actual curative value of an anti-syphilitic remedy must necessarily have been based on the time factor alone, but now with our Wassermann reaction we are more in a position to speak of actual and

\* Read at the 114th annual meeting of the Medical and Chirurgical Faculty of Maryland, April 24, 1912. Reprinted from the American Journal of Surgery, August, 1912.



not relative cures. Although salvarsan has only been employed about two years, the different reports from various sources based on the Wassermann reaction, will give us a fairly accurate idea of its efficacy in not only relieving the symptoms but the possibility of its absolutely eliminating the syphilitic infection from the body.

This paper is based on the result of over a year's experience with salvarsan, during which time there were 175 injections administered to 115 patients. These patients all consisted of our private clientele, there being no dispensary patients included, thus offering us the advantage of following more closely a greater majority of the cases. All were injected intravenously with the exception of eight, on whom the intramuscular method was used. Of these eight, four received the oil emulsion and four the neutral suspension. While all those injected intramuscularly complained more or less from the effects of the injection, there were none, however, that developed lesions of any serious nature, such as abscesses, necrosis, etc. In only one case where the oil emulsion was used was there any severe reaction which manifested itself in the form of continuous fever, pain, headache, loss of weight and appetite. These symptoms continued for about ten days, although the pain lasted for a much longer period. The other cases reacted much alike, the chief symptom or complaint being the pain around the area of puncture often extending down the limb and aggravated on exertion. Since the cases treated by this method are only a few in number, and as the majority of these were followed up with subsequent intravenous injections, we can't very well draw any conclusions as to the efficacy of salvarsan when injected intramuscularly. It is maintained by some authorities that salvarsan when administered by this method, being stored up in the muscular tissue, is more efficient. The possible advantages which may accrue from this continuous medication due to slow absorption, however, in our opinion, as well as in the opinion of the majority of observers, do not compensate for the severe pain and dangers of abscess formation which often accompany this procedure. The intravenous method is unquestionably to be preferred, as when the patient receives the medicament he gets the required dose with no fear of any remote bad after-effects. Our technic of this procedure is fully described in another article, and we wish here only to mention a few points, which when observed seemed to lessen the severity, if not preventing entirely, the

reaction. First, the saline should be freshly prepared immediately before the injection; second, it should be prepared from distilled water and chemically pure sodium chloride; filtered, boiled, then allowed to cool to the proper temperature; third, the solution when ready for injection must be absolutely clear, alkaline and warm. It should be free from solid particles, the injections of which into the circulation is certainly not permissible. With the proper precaution and careful technic the intravenous introduction of the solution offers no difficulty whatsoever. Another essential is in having a sharp needle, with a caliber that will permit the full quantity to be injected in about 15 minutes. With the finger over the vein, the inflowing fluid is perceptible; this, with the patient's entire freedom from pain, serves as a guide that the process is being conducted properly. Before the injections, all our patients were examined with special reference to the heart, arteries, nervous system and urinary findings. Delicate individuals or those suffering with a varying degree of arteriosclerosis, received proportionately smaller doses. Other conditions being favorable, the presence of a small quantity of albumen or sugar has not deterred us from administering the treatment. In several cases of this kind we found the reaction to be neither more nor less severe than in perfectly normal individuals. We were surprised to note the small percentage of reactions following the injections, these when present seldom came on earlier than two hours after the treatment was administered. Probably 30 per cent were free from any effect whatever, while others showed symptoms varying from a slight headache to chills, fever and gastro-intestinal disturbances. Again, few patients after their first injection reacted pronouncedly while the second caused absolutely no ill effect, and vice versa. The highest temperature noted was 103, which soon receded when the nausea, which in these cases was more marked, disappeared. In very active syphilis, and especially when the patient was more or less cachectic, the salvarsan reaction seemed more severe, but in not a single instance was there any cause for alarm.

#### COMPLICATIONS.

Fortunately there were no complications directly attributable to salvarsan. Among the interesting by-effects, however, that were observed may be mentioned a case where herpes zoster appeared on the trunk 14

days after an intravenous injection. Fox and Trimble,\* Strumke and Bruckman,† report similar instances in their observations. What might be called the Herxheimer reaction appeared in 5 per cent of our cases, namely, a bright red erythema usually covering the trunk. In only one case (presenting initial lesion) did we give a second injection as early as three weeks. This was done in order to attempt an abortive cure. At each injection the patient was given the full dose, namely, 0.6 gms. This interval of three weeks evidently seemed too short, for the patient had a rather severe reaction with the presence of albumen in the urine after the second dose. However, he soon recovered, never developed further manifestation, nor did his Wassermann ever change from negative.

Clinically the cases may be classified as:

- (a) Those presenting initial lesions.
- (b) Those with manifestations (other than initial lesions).
- (c) Those without manifestations showing positive Wassermann reaction.
- (d) Parasymphilides and hereditary.

(a) The initial lesions were diagnosed as syphilitic only after the finding of the living spirochetes in the dark field illuminator. Our experience with the Wassermann test in this early stage of the disease corresponds largely to that of other observers. While the reaction may show positive in many cases, there are a large percentage that give a doubtful or even a negative result. This is due to the fact that the spirochetes have not developed in sufficient number, consequently the lack of syphilitic antibody necessary to influence the test. There were 10 cases treated presenting primary lesions, all of whom were injected within 24 hours following the finding of the organism. In each case the chancre disappeared surprisingly fast, the time averaging 10 days. Those receiving two injections had their second administered at an interval of from five to six weeks, except two; one where the interval was three weeks, as heretofore mentioned, the other being four months. The apparent curative value of salvarsan was probably most conspicuous in these cases, for not only did they fail to develop any further manifestations, but their Wassermann tests on repeated examinations continued negative. The cases were followed

\* Experience with Salvarsan.—*Journal A. M. A.*, Nov. 18, 1911.

† Toxic Effect of Salvarsan.—*Berliner Klin. Wochen.*, Feb. 12, 1912.



with much interest and care, and their last examination only a short time ago which now varies from five to ten months after the appearance of the initial lesions showed all the signs of being cured. It might be added that we propose, as far as we are able, to follow these cases for the next several years.

(b) *Cases with Manifestations.*—In this classification are included cases exhibiting secondary and tertiary lesions. Manifestations, including macular, papular and pustular syphilides; ulcerations of the throat, mouth and tongue, glandular or bone involvement, and, in fact, most forms characteristic either of these stages, varying from a mild to a marked degree, were well represented. As far as the symptomatic effect goes, salvarsan causes the disappearance of lesions of mucous membrane with startling rapidity, even in cases entirely resistant to mercury. Lesion of the skin, however, did not disappear with any much greater degree of rapidity as compared to injections of the salicylate of mercury. Bone and glandular involvement are unquestionably affected more favorably than by any other form of antisyphilitic treatment. Even though salvarsan would offer no advantage as far as rapidity of the disappearance of the symptoms is concerned, the ease of its administration, the absence of the pain incident to mercurial injections, the absence of continued gastro-intestinal disturbances, also so common in mercurial medication, and the long-continued benefits following one treatment alone, certainly give it preference to mercury. In this connection we desire to take up specifically a few cases showing the extremes of success and failure. One patient suffering with an ulcerative lesion of the tongue was under the most intensive treatment with mercury and iodide for nine months with absolute failure to bring about any change whatsoever. Here, a single injection of salvarsan caused disappearance of the lesion within 10 days, and the Wassermann reaction became negative. Another patient presented a syphilitic ulceration of the lower jaw which responded to one injection of salvarsan after all other means had failed. In contradistinction to these cases, as an illustration of a failure may be mentioned a case with multiple ulcers of the leg which failed to respond after an intravenous and an intramuscular injection. It is more than likely that the failure in this case was due to the enormous amount of indurated tissue surrounding the ulcers.

(c) *Cases without Manifestations, Showing Positive Wassermann Reaction.*—Many of these cases previous to the introduction of salvarsan had been treated with mercury and iodide; others again had either neglected, or, as clinically cured, discontinued all treatment under medical advice. The necessity for treatment was based entirely upon the behavior of the Wassermann.

(d) *Parasyphilides and Hereditary Lues.*—These cases all exhibited some involvement of the central nervous system and gave a specific history.

They showed either a positive or negative Wassermann. The clinical effect on these cases was nothing startling, but we believe the possibility that it may inhibit the further progress of the degenerative changes is surely worth a trial in these otherwise incurable conditions. Our list includes 15 parasyphilitics and 1 hereditary case.

#### WASSERMANN REACTION.

The great value of the Wassermann reaction is most forcibly demonstrated as a guide in the *treatment* of syphilis. Whereas in former years we were guided in the treatment by the presence of lesions, or the rapidity of their disappearance; but much was left to the therapeutic diagnosis or guesswork. Consequently, when we wish to speak of actual cures in syphilis, the Wassermann test is just as important a factor in the treatment of this disease with its many obscure and protean manifestations as the very drugs themselves, may they be mercury, potassium iodide or salvarsan.

We were very liberal in making this test, which was carried out in our laboratory. The original Wassermann method was used and with known positive and negative controls with each series of tests. We depended, therefore, largely upon the behavior of this test, which serves as so splendid a guide in executing curative treatment. That syphilis may be latent for an indefinite period without any signs or symptoms is a well recognized fact. There may be slow retrogressive changes occurring internally which may lead to severe degenerative conditions. According to most observers a positive Wassermann reaction, with very few exceptions, signifies syphilis that is active, irrespective of clinical manifestations. The interpretation of a partial reaction is at times exceedingly difficult, and the decision must often depend on a consideration of clinical data, the possibility of the reading being influenced by recent strong antisiphilitic treatment, or by

previous copious indulgence in alcoholic beverages. It occasionally happens that one may meet with a case of active lues showing a negative reaction. This may be explained by the fact that although there are present active spirochetes, there is, however, not sufficient antibody formation to produce complement fixation. Occasionally there may be an intensification of the Wassermann reaction following shortly the administration of salvarsan. It is maintained that here the medicament has stimulated the formation of reactive substances, thereby temporarily influencing the reaction. As an example, in one of our cases the patient was under the old treatment for a long time. His Wassermann reaction at the time of his first injection was plus over minus (doubtful). Three weeks following, the test showed double plus, becoming negative after a subsequent injection. While it was our wish to follow up every patient with frequent Wassermann tests, one invariably meets conditions making this impossible. Some patients, for instance, appeared unexpectedly for treatment, at times inopportune for making the test, while others failed to return, etc., etc. Tests were made from time to time at varying intervals after each treatment, no special rule being fixed as regards to time and frequency of the test, excepting that no test was made earlier than four weeks following the first injection.

Of the 115 patients, 17 had no Wassermann examinations made at all. These include: (a) With manifestations, 13; (b) parasymphilides, 3; (c) hereditary, 1.

In our initial lesion cases, while Wassermann tests were made, owing to its insignificant value in the early stage of this disease, no records were kept until after administering salvarsan. They are thus classified separately. Number of *primary lesions* 10.

Two cases receiving one injection failed to return for further tests or treatment.

Seven cases receiving two injections (interval of injection four weeks), repeated tests never changed from negative.

One case receiving two injections (interval of injection four months), one month following first injection Wassermann showed negative. Three months later showed triple plus. At this period he received another treatment. No test has been made since.

Of the 88 patients remaining, 20 failed to have their blood re-examined after their first or second treatment, leaving 68 of whom accurate records were kept.



## SIXTY-EIGHT RECEIVING ONE OR MORE INJECTIONS.

Thirty-two (80 per cent) cases changed from xxx to xx or x; (a) 20 with manifestations; (b) 12 no manifestations; (c) 0 parasyphilides.

Eighteen (80 per cent) cases changed from xx or x to — (a) 8 with manifestations; (b) 8 no manifestations; (c) 2 parasyphilides.

Eight (20 per cent) cases remained xxx (a) 4 with manifestations; (b) 1 no manifestation; (c) 3 parasyphilides.

Or, in other words, of all the cases showing either a partial or strong reaction, 31 per cent became negative after the first injection. In one case the test changed from x to xx.

Nine cases had no test made between the first and second injection.

## FORTY CASES RECEIVING TWO OR MORE INJECTIONS.

Fourteen (60 per cent) cases changed from xxx to xx or x (a) 5 with manifestations; (b) 6 no manifestations; (c) 3 parasyphilides.

Nine (40 per cent) cases changed from xxx to — (a) 6 with manifestations; (b) 3 no manifestations; (c) 0 parasyphilides.

Four (80 per cent) cases changed from xx or x to — (a) 3 with manifestations; (b) 1 no manifestations; (c) 0 parasyphilides.

One case remained xx. With manifestations.

Eight have thus far not reported for further tests. Four are included with those who had no tests made at all.

## EIGHT RECEIVING THREE OR MORE INJECTIONS.

One case changed from xxx to x.

Three cases changed from xxx to — (a) 1 with manifestations; (b) 2 no manifestations.

One case remained unchanged at xx. With manifestations.

Three have not yet returned for further tests.

Two cases received four injections. While the Wassermann test in each was markedly influenced after three injections, they have up to time of the writing of this paper not returned for a test after their fourth treatment.

## CONCLUSIONS.

1. Based on our experience with the Wassermann reaction previous to the introduction of salvarsan, we find that this drug influences the test more strongly than any other forms of antisyphilitic treatment, and our statistics show that the Wassermann reaction became negative in 31 per cent of the cases following one injection, and, further, that cases resistant to one injection will usually respond to a second or third.

2. That one injection is not sufficient and must be repeated from time to time, using the Wassermann reaction as a guide.

3. No attempt is made in this article to speak for or against the use of mercury and potassium iodide in connection with salvarsan.

## Correspondence.

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BUTLER, PA., April 18, 1913.

DR. CHAS. E. BRACK, Baltimore.

*My dear Doctor.*—The enclosed check will put me a little to the good, as per your account.

I get sight of an eye or an ear, or a tonsil or a turbinate occasionally, so we manage to get enough to eat.

Am doing quite a little mastoid work for a man in a small place.

I enjoyed very much meeting my old friend and classmate, Dr. Harry Friedenwald last summer at the International Otological Congress at Boston.

We have recently organized a University Club here in Butler, of about one hundred and twenty members. Your humble servant had the totally unexpected honor of being elected its first president. Quite a number of physicians belong.

With best wishes for P. & S., and kind regards to yourself and Drs. Friedenwald, Gardner and Chambers, I am,

Sincerely yours,

L. L. DOANE.

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LEHIGHTON, PA., May 1, 1913.

*My dear Doctor Brack.*—I enclose check for one dollar, subscription to the JOURNAL for 1913, my dearest obligation to the Alumni Association of the College of Physicians and Surgeons. "I dearly love the association."

Yours very truly,

DR. C. T. HORN.

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DERBY, CONN., March 11, 1913.

*Dear Doctor Brack.*—Arrived this morning at 3 o'clock one fine baby girl. The old guard never surrenders. Regards to the boys.

Sincerely yours,

COL. C. JACOBUS HALPER,

Of the late unpleasantness.

WILLIAM S. GARDNER, M. D., EDITOR,  
6 W. Preston Street.

JOHN RUHRÄH, M. D., ASSOCIATE EDITOR  
839 N. Eutaw Street.

CHAS. EMIL BRACK, M. D., BUSINESS MANAGER,  
500 E. Twentieth St.

# THE JOURNAL

## OF THE ALUMNI ASSOCIATION

OF THE

### COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE.

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#### ANTI-NOISE LEGISLATION.

In various communities in this and other countries there is a great deal of unnecessary noise which contributes not only to the discomfort of the inhabitants, but also may in some cases do actual injury, especially in cases of nervous individuals and those suffering with various ailments. From time to time efforts have been made to stop undesirable noise, but the judgment of the average citizen as to what constitutes unnecessary noise is liable to be influenced by his immediate surroundings. This subject has been very carefully studied in Baltimore by a committee appointed by the Baltimore City Medical Society. After a considerable amount of research an ordinance has been prepared which makes it unlawful for any person to blow or cause to be blown within the limits of the city of Baltimore, the steam whistle of any engine, as a signal for commencing or suspending work, or for any other purpose whatever, except as hereinafter specified, under a penalty of not less than \$5.00 nor more than \$50.00 for each and every offence. Provided, however, that nothing in this section contained shall be construed as forbidding the use of steam whistles as alarm signals in case of fire or collision or other imminent danger, nor for the necessary signals by steam engines of the fire department of the city, nor of steam-boats sounding their said whistles in conformity to the Pilot Rules of the Department of Commerce and Labor.

The following is the substance of the other items which the committee has under consideration :

I. That no person shall make, cause, permit or allow to be made, any noise of any kind, by means of any whistle, rattle, bell, gong, clapper, hammer,



drum, horn or similar mechanical device, at any time, for the purpose of advertising any goods, wares or merchandise, or of attracting the attention or inviting the patronage of any person to any business whatsoever, anywhere in the city, nor shall ornamental or other bells be attached to any wagon or conveyance driven or propelled in or upon any of the streets of the said city. Provided, however, that nothing in this section contained shall be construed to prohibit the use of sleigh bells as provided by existing law.

II. No person hawking, peddling or selling or exposing for sale any goods, wares or merchandise in and upon the streets of said city, shall cry his wares to the disturbance of the peace, and comfort of the inhabitants of the said city.

III. No person shall load, or cause or permit to be loaded, any vehicle to be driven or propelled in and upon the streets of the said city, with iron or other metal that may cause loud and disturbing noises in and upon said streets by striking together without said iron or other metal being properly deafened so as to cause no unnecessary noise.

IV. No person shall, on the first day of the week, commonly called Sunday, disturb the peace, by crying newspapers, or periodicals in and upon any of the streets occupied in whole or in part for residential purposes, nor shall any person or persons on said first day of the week conduct in and upon any of the said streets any religious service.

V. No person shall, between the hours of 11 p.m. and 7 a.m. disturb the peace by noisy, riotous or disorderly conduct, or by singing, whistling or loud talking in and upon any of the streets of the city of Baltimore, or by noisy calling to horses or to cattle or sheep.

VI. No person shall keep any kind of domestic fowl within the limits of the city of Baltimore within seventy-five (75) feet of any structure owned by another, and used for human habitation, occupation or assembly, whether the said structure be in the same or an adjacent block or square, nor shall such domestic fowl be permitted to run, fly or stray within seventy-five feet of any such structure within the said limits of said city.

VII. It shall be unlawful for any person to skate with, or move by the aid of roller skates, pushmobiles, or any noise creating device whatsoever, upon any sidewalk, in the city of Baltimore, except baby carriages, and three wheeled vehicles provided with rubber tires and operated by children under ten years of age.

VIII. No person shall own or keep in the city of Baltimore, any dog, which by barking, biting or howling, or in any other manner, disturbs the quiet of any person. It shall be the duty of any police officer, who shall find any such dog running at large in said city to have the said dog taken in custody by the Society for the Prevention of Cruelty to Animals to be killed in the most humane way.

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## MUNICIPAL CARE OF INFECTIOUS DISEASES.

Along with the many hygienic reforms that have been urged in recent years, there is one which has not received full measure of attention and curiously enough it is one which offers greater hope of immediate reward than almost any other undertaking. This is the care of infectious diseases

in municipal hospitals particularly the care of diphtheria and scarlet fever. For some reason there has been a general neglect of this subject in a large number of American cities and almost without exception nothing like adequate provision is made for this class of cases. Boston and New York come nearer the ideal than any other place, but even in these two cities the number of beds supplied falls far short of what is believed to represent an efficient number. The English, who have devoted a considerable amount of attention to this subject, have suggested that one bed for each thousand inhabitants will approximately care for the so-called minor infectious diseases under normal conditions. In New York the proportion is about one to 2500, in Baltimore about one to 17,000 and most of the American cities are either entirely lacking in the proper provision or come in the list represented by Baltimore in which a feeble effort is made to provide isolation.

Both scarlet fever and diphtheria may be easily and efficiently isolated and both are spread chiefly in two ways; first, by direct infection of the individual from the patient; and, secondly, by carriers or those who retain in their bodies the germs of the diseases without actually having it or who retain them for unusually long periods after an attack. It needs no argument to make clear that if the individual suffering with diphtheria or scarlet fever is isolated from the rest of the community there will be neither cases nor carriers. Every case of one of these diseases which is not properly isolated acts as a focus from which the disease may spread, and each additional case thus caused starts a new point so that in spite of the efforts of the health authorities these diseases remain endemic in all of our large cities. In providing place for the proper isolation of these diseases the community would be acting in its own interest, and the building of such hospitals should not be regarded as doing anything very much for the individual suffering with the disease, but rather to keep well the remainder of the community. It is the duty of every health department to remove all such cases where they will no longer be a danger to the community. This, of course, cannot be done unless the city provides adequate hospital accommodations not only for the very poor, but also for the well to do. In most American cities there occur every year cases in boarding houses, in hotels and in transit a great many cases which tax the ingenuity of the physicians and the health authorities.

Such a hospital requires the services of physicians specially trained in the management of the infectious diseases and in preventing their spread; such physicians should fill permanent positions with adequate salaries and free from political influences. This is another reason for having only trained health officers who devote their entire time to their public duty, who are properly trained and adequately recompensed.

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### INFORMATION WANTED.

The following alumni have been lost track of by the association, and we would like very much to have any information concerning them which any of our readers can furnish. This should be sent as soon as possible to Dr. Charles E. Brack, 500 E. 20th Street, Baltimore. J. J. Maquer, '03; J. C. Feinael, '97; C. T. Berry, '10; Thos. S. Cerosly, '05; C. P. Leitzell, '82; Julius Fisher, '10; Devia Deutschman, '11; J. E. Pickering, '08; Major M. Allan, '03; Paul Rider, '11.

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### THE COLLEGE ANNUAL.

The Seventh Volume of the College Annual, published by the Class of '14, will be out May 10, 1913.

This class book imbued with college life and spirit is a storehouse of treasured memories gathered by the wayside. The daily occurrences are noted in jokes and jibes. But, however, the more serious side of college life is not neglected.

It contains well grouped pictures of the Faculty, Adjunct Faculty, Classes, Fraternities, and many illustrative cartoons.

The literary contents are of the best. Two excellent articles by members of the Faculty, class histories and appropriate poems and essays by the students make up the book.

The class book should be of especial interest to the alumni in following the onward progress of dear old P. & S. for in no other way—not even through the ALUMNI JOURNAL—can you keep in touch so closely with your Alma Mater.

The Annual will be sent prepaid to any alumnus upon the receipt of \$2.25 by May 1, 1913.

R. H. WALKER, Editor-in-Chief.



## FRATERNITY NOTES.

On February 4, 1913, Zeta Chapter, Phi Beta Pi Fraternity held its annual banquet at the Emerson Hotel. The affair was attended by the following brothers among the Faculty of P. & S.: Dr. Archibald C. Harrison, Dr. Harvey G. Beck, Dr. Frank Dyer Sanger, Dr. Wm. S. Gardner and Dr. Alexius McGlannan, in addition to several of the graduate members serving on the Mercy Hospital staff, and all 39 of the active members. Bro. Fishbaugh, a senior at Johns Hopkins Medical School, was also present. The banquet was held in one of the large banquet rooms of the magnificent new Emerson. An excellent menu, music and speeches rounded out a delightful evening.

Each of the doctors and one representative from each class spoke, so also did Bro. Fishbaugh. There are several new Phi Beta Pi men at Johns Hopkins at present and in a short time they will organize and have Phi Beta Pi represented in that school.

Everybody had a glorious time, and nobody enjoyed the event any more than did the old graduates, who always welcome this annual party as a reminder of their college days. Altogether the affair was the most successful ever held.

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DELTA DELTA CHAPTER,  
PHI CHI FRATERNITY.

*Dear Alumni and Friends:*

Delta Delta has had a most successful year, and when we contemplate on all that has happened, it is with pride that we review the substantial progress made.

When we convened in the fall we were confronted with the grave problem of recruiting our ranks which had been sadly depleted by the outgoing graduates of last year. But despair is a quality foreign to a Phi Chi heart, and inspiration was not lacking. I think we can say without disparagement to our absent brothers that we have fulfilled our trust—that upon the solid foundation which they left us we have reared a magnificent structure. To-day our chapter is composed of the best men in college. I think we can say this without any spirit of timeserving. We have no regrets, or nothing to take back. No one could be more justly proud than are we of our new members. We trust this is the general testimony of all chapters.

We know that the members of our fraternity have their splendid qualities of manhood stamped upon soul stuff. We know their virtues and their valor. We know that in the defense of the honor and integrity of our order they will "charge hell's portals in!"

This year we have made some innovations in our routine of business and social meetings which, after adoption, have proved themselves most happily conceived. Beside our usual banquet festivities we alternate with each business meeting one of a social nature. This combination of "work and play" has done much to preserve the true spirit of Phi Chi, and to relieve the tedium of excessive business problems.

We were exceedingly gratified to learn from E. Drew Silver, our delegate to the Phi Chi convention, that all chapters are flourishing. That this era of happiness and prosperity will "strike the keynote of another year" is the ardent wish of Delta Delta.

FRANK G. STRAHAN.

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## Obituary.

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DR. WILLIAM I. REESE, '93, died suddenly at his home in Red Oak, Okla., February 14.

DR. CHARLES S. BROWER, '80, of Phoenicia, N. Y., died in Kingston, N. Y., December 15, 1912.

DR. JOSEPH T. JARBOE, '89, died at his home in Hagerstown, Md., February 11, from nephritis, aged 58.

DR. WILLIAM ISAAC REECE, '93, died suddenly at his home in Adamson, Okla., February 14, from heart disease, aged 41.

DR. JOSEPH G. WALDROP, '76, a member of the Medical Society of the State of North Carolina, died at his home in Hendersonville, N. C., about March 1.

ULYSSES P. WHITE, '94, for several years local surgeon of the Santa Fé system of Artesia, New Mexico, died at his home in Artesia, February 3, from cerebral hemorrhage, aged 47.

DR. ISAAC ALLEN FETHERLOF, '77, a member of the Medical Society of the State of Pennsylvania; for 25 years a practitioner of Mazeppa, Pa.,

but for the last two years a resident of West Milton, died at his home, February 16, from malignant disease of the liver, aged 62.

DR. SAMUEL WHITFIELD HARTT, '89, formerly a member of the Duquesne County (Pa.) School Board; later a member of the Port Angeles (Wash.) School Board, and thereafter chief of staff in the surgical department of the Denver County Hospital for two years, died at his home in Seattle, February 5, from pleurisy complicating pneumonia, aged 47.

DR. GEORGE H. WITTER, '85, died at his home in Wellsville, N. Y., February 12, 1913, after an illness of nearly six months. He is survived by a wife, who was Miss Maude Bingham, to whom he was married in 1899, and two daughters, Grace and Margaret. Dr. Witter established himself as soon as he graduated in Wellsville, in partnership with Dr. Nye, and for many years had been connected with the surgical work of the Erie and with other railroads, and was an active member of the various medical societies. He also took an active interest in the local government and served as supervisor of the town for five years, beginning in 1893, and took an active part in the management of the Republican party in his part of the state.

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## Marriages.

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DR. EMIL NOVAK, of Baltimore, was married to Miss Elizabeth Grace Rogers on Monday, March 24, at Jamaica Plain, Mass. Dr. and Mrs. Novak will make their home in Baltimore.

DR. HARRIS A. BOLTON, of Warm Springs, Mont., was married to Miss Maude Smith, on Saturday, March 8, at Racine, Wis. Dr. and Mrs. Bolton will make their home at Warm Springs, Mont.

DR. AND MRS. J. CLAY HICKS celebrated the eighteenth anniversary of their marriage with a crystal wedding reception, which was held at their home, 1003 Fifth Avenue, Huntingdon, W. Va., March 31.

DR. WILLIAM JOSEPH SCHMITZ, one of the health wardens of Baltimore City, was married to Miss Annie Estelle Hebner, on Wednesday, April 9, at 3014 St. Paul Street. Dr. and Mrs. Schmitz will make their home in Baltimore.



## Personal Notes.

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DR. G. C. BLAKE, '10, is the secretary-treasurer of the Preston County Medical Society, W. Va. Dr. Blake is located in Powellton, W. Va.

DR. CHAS. W. VOGEL, '95, was transferred to Ellis Island Immigration Station, New York City, after having served three years at quarantine station at Port Penn, Del.

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## Correspondence.

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UXBRIDGE, MASS., Feb. 27, 1913.

DR. CHAS. E. BRACK, Baltimore, Md.

*My dear Doctor.*—You will find enclosed check for \$2.00 for the ALUMNI for two years.

Am doing very well here at Uxbridge; had a good year for 1912.

You may be glad to know I was elected a member of the Board of Health for two years; also was elected President of the Thurber Medical Association, which is the oldest medical society in Worcester County. This is for the term of one year, from October, 1912, to October, 1913. Trusting this finds you all well at P. & S., and with best wishes to all, I am,

Yours sincerely,

J. W. LEDBURY.

---

REEDY ISLAND, PORT PENN, DEL., Feb. 21, 1913.

*Dear Doctor Brack.*—Once again I have a transfer, this time back to dear old New York. I have been in command at this station for about three years and am now relieved and go to the Immigration Station at New York for duty in connection with the examination of alien immigrants. I think I will like the change from this isolated place to the excitement of little old New York. Please have my address changed on your books of the Alumni Association to "Ellis Island Immigration Station, care of Chief Medical Officer, New York, N. Y. Please remember me to all the boys and best wishes to you and Mrs. Brack from Mrs. Vogel and myself, hoping to see you soon. Come up and see me at New York. As ever

VOGEL.

## NOTABLE FEATURES ON THE PROGRAM OF HYGIENE CONGRESS.

The Fourth International Congress on School Hygiene, and the first to be held in America, at Buffalo, August 25-30, according to an announcement of the executive committee, will be by far the most elaborate effort yet made in this country toward getting the problem of school hygiene before the world. The first International Congress was held at Nuremberg in 1904, the second at London in 1907, the third at Paris in 1910.

The objects of the Buffalo Congress are:

- (1) To bring together men and women interested in the health of school children.
- (2) To organize a program of papers and discussions covering the field of school hygiene.
- (3) To assemble a school exhibit representing the best that is being done in school hygiene.
- (4) To secure a commercial exhibit of practical and educational value to school people.
- (5) To publish the proceedings of this Congress and distribute them to each member.

In addition there is a plan on foot to effect a permanent organization for the purpose of carrying out school hygiene reforms in all the individual communities in this country, if not all over the world.

One of the interesting features of the Congress will be the presence of delegates representing the community interest in school hygiene, including those appointed by mayors and governors, by women's clubs, by school boards, boards of health, by mothers' congresses and charity organization societies and boards of trade. Their help is being solicited with a view of organizing the community in a campaign of school hygiene reform.

The program committee announces a program of two hundred and fifty papers and fifteen symposiums, taking up hygiene from the following points of view:

- I. The hygiene of school buildings, grounds material and up-keep.
- II. The hygiene of school administration and schedule.
- III. Medical, hygienic, and sanitary supervision in school.

The contributors to the program make up a notable list of speakers, college presidents and professors; state, city and county commissioners of education; teachers and superintendents of public schools, medical college professors; state, county and city health officers; physicians in private practice, engineers and architects.

Special discussions are being arranged on the following subjects:

*School Feeding.*—Arranged by the Committee on School Feeding of the American Home Economics Society.

*Oral Hygiene.*—Arranged by National Mouth Hygiene Association.

*Sex Hygiene.*—Arranged by the American Federation of Sex Hygiene.

*Conservation of Vision in School Children.*—Arranged by the Society for the Prevention of Blindness.

*Health Supervision of University Students.*—Arranged by Dr. Mazyck P. Ravenel, University of Wisconsin.

*School Illumination.*—Arranged by the Society of Illuminating Engineers.

*Relation Between Physical Education and School Hygiene.*—Arranged by the American Physical Education Association.

*Tuberculosis Among School Children.*—Arranged by the Society for the Prevention of Tuberculosis.

*Physical Education and College Hygiene.*—Arranged by the Society of Directors of Physical Education in Colleges.

*The Binet-Simon Test.*—Arranged by Professor Terman, Stanford University.

*The Mentally Defective Child.*—Arranged by Dr. Henry H. Goddard, Vineland, N. J.

Various citizens' committees of Buffalo are arranging an elaborate entertainment for the benefit of visiting delegates. There will be receptions and a grand ball, a pageant of school children, and excursion trips to the great industrial plants of Buffalo, and to the scenic wonders of Niagara Falls. The Boy Scouts will act as official guides.

Delegates will attend from every college and university of note in this country, from other leading educational and hygienic institutions and organizations, and from every country in which an active interest is being shown in the welfare of school children, which includes all the leading nations of the world.

The Congress is open to all persons interested in school hygiene upon the payment of a fee of five dollars. Application of membership should be sent to Dr. Thomas A. Storey, College of the City of New York, New York City.

President Wilson has accepted the honorary office of patron of the Congress. The president of the Congress is Mr. Charles W. Eliot of Harvard University. The vice-presidents are Dr. William H. Welch, of Johns Hopkins University, and Dr. Henry P. Walcott, president of the recent International Congress on School Hygiene and Demography, and chairman of the Massachusetts State Board of Health.

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#### FACTS ABOUT PHYLACOGENS.

Practitioners who have a fondness for figures, and who want definite, first-hand knowledge of what the Phylacogens are accomplishing in the way of actual clinical results, are urged to turn to the display announcement in the current issue of this JOURNAL bearing the signature of Parke, Davis & Co. Here, under the title "The Value of the Phylacogens," one finds the results in 4148 cases of infectious diseases that have been treated with Phylacogens. One also reads in detail what is credited to each individual Phylacogen. For instance, you may be interested in rheumatic affections. You see at a glance that a certain number of cases have been treated and reported; the same glance tells you how many of them were treated successfully. This is equally true of pneumonia cases, erysipelas cases, gonorrheal cases, mixed-infection cases. Figures are apt to be tiresome. These figures are not so: they tell what every practitioner of medicine wants to know or should know. We commend the announcement to our readers.



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## GONORRHEA PHYLACOGEN

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## PNEUMONIA PHYLACOGEN

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For information, address **WILLIAM F. LOCKWOOD, M.D., Dean,**

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THE JOURNAL  
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ALUMNI ASSOCIATION  
OF THE  
COLLEGE OF PHYSICIANS  
AND SURGEONS  
BALTIMORE.

Vol. XVI

No. 2

JULY, 1913

PUBLISHED AT  
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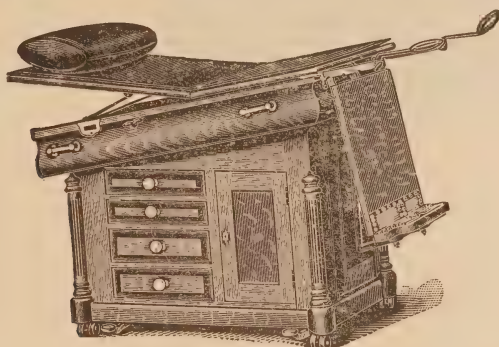
COLLEGE OF PHYSICIANS AND SURGEONS,

Baltimore, Md.

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# THE EFFECT OF RESINOL IN TYPICAL SKIN DISEASES

By J. H. Hurst, M. D., Indian Springs, Tenn.

I HAVE had many interesting cases of skin diseases come under my observation in which Resinol ointment has given excellent results. I have been prescribing this preparation for over fifteen years and beg to submit case reports of two typical instances of its successful use.

CASE 1.—Mrs. C., aged 58, came under my care suffering with a very aggravated case of eczema. The disease covered both hands and extended to about the elbows. It had continued over a period of something like six months and was one continuous eruption, giving excruciating pain, especially when getting the skin wet. It had been treated at home with various lotions, salves, etc., and by one very able young doctor, a friend of mine. The patient finally asked me to "try my hand at the case." The skin was first thoroughly softened with Resinol soap and dried. After this the Resinol ointment was thoroughly rubbed in every night and morning. *Itching ceased after the first application* and the case went on to rapid recovery, the skin being perfectly smooth in a week.

CASE 2.—Mr. James B. presented a marked case of tinea sycosis (barber's itch). Numerous remedies had been tried with only temporary relief. The disease had become chronic, covering a period of over two years. These cases are very hard to handle with ordinary treatment. I prescribed Resinol ointment, the skin being well softened by Resinol soap and hot water first. The Resinol ointment was used every night, on retiring, no shaving being permitted, but clipping the beard with sharp scissors. This treatment was entirely successful in about two weeks. After three years there has been no return.

NOTE.—While Resinol ointment has its largest application in the treatment of skin diseases and especially in the speedy control of itching, yet its properties are such that it lends itself to a wide range of other uses. As a dressing for burns and scalds, ulcers, boils and similar lesions, for severe chafing, and for piles, it is convenient, uniform and efficient. Physicians wishing to test Resinol ointment and Resinol soap can obtain samples on application. Also ask for a miniature Resinol shaving stick.

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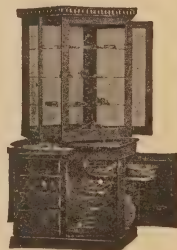
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THE SITTING POSTURE IN THE PUERPERIUM.

By WILLIAM SISSON GARDNER, M. D.

For many years I have been interested in the influence of the posture of the patient during the puerperium, at first as to the effect of the posture on infections and later as to the results in the absence of infection. As early as 1885 I observed the great benefit derived from the sitting posture in certain forms of puerperal infection. At that time in the old Maternite, on Lombard Street, we had many more cases of infection after labor than are seen in similar institutions at the present time. I very soon learned that what we call the sapremic form of puerperal fever was promptly benefited in nearly every case by taking the patient out of bed and placing her in a reclining chair.

From the observation of these patients I came to look upon the sitting posture as a prophylactic measure. I discouraged the too-long continuance of the prone position and encouraged the patients to sit up in bed a part of the time soon after labor. The nurse was instructed to allow patients to rise for the evacuation of the bowels and the bladder and to prop the shoulders high up on pillows for a part of each day. From this it was but a step to allow patients to sit up in a chair for a few hours.

This is a matter of such great importance and is so diametrically opposed to our thoroughly-ground-in ideas as to the proper management of the puerperium that I thought that a copious abstract from a paper by Mullerheim on this subject, with a few comments by myself, would serve to again attract attention to this subject.

Mullerheim in his paper upon the early getting up of lying-in women gives his own views and reviews the work that has been done in this

line in some of the larger German clinics. He states that the old method of treating patients after labor by keeping them confined to bed for a long time and giving a very limited diet was at least of no advantage to women who were otherwise in good health. The lack of exercise reduced the capacity of the voluntary muscles and diminished the heart action, causing a sluggish circulation which is prejudicial to all the organs of the body. Hegar recognized the defects of this system and ordered gymnastic exercises to be given so long as the patient is confined to bed. These exercises consist in raising the body from the bed to a sitting position at first with the help of the hands and afterwards without them. He found that this physical exercise was beneficial even to those that had received definite injuries as the result of interference in difficult labors. When the muscles of the floor of the pelvis have been damaged Hegar advises the voluntary exercise of the pelvic muscles. In these cases he advises the voluntary exercise of the perineal muscles several times a day by producing the same muscular contractions that take place in attempts to retard the stool. Brandt recommends the same exercises and also the changing of the position of these patients in bed, and states that the knee chest position has a very beneficial influence upon the injured muscles of the floor of the pelvis, especially the levator ani. Both Brandt and Hegar advise definite leg exercises, which they think have an effect upon the muscles of the floor of the pelvis. The limbs are exercised actively and passively and a light massage is used.

In the effort to better the lying-in period Kustner went a step farther in having the women get up a few days earlier after delivery than had been the custom. We know that women of the working class get up on the day after labor without suffering any immediate injury. We hear also of the getting up of many women among uncivilized people immediately after labor. For years it has been the custom after an operation on old people or those suffering from bronchitis to place them in a sitting position as soon as possible to avoid the danger of hypostatic pneumonia. Kustner may have had a similar idea when, 30 years ago, he made his first experiments with the early getting up of women after labor. He put this question to himself: Is a long lying-in period serviceable to healthy women? After his clinical examinations he came to the conclusion that the early leaving of the bed does no harm; that

the patients do not have fever; that they do not have prolapse or retroflexion of the uterus; indeed, that the early getting up is not only not detrimental, but has its definite benefits. The involution of the uterus progresses more rapidly; defecation regulates itself easily and without the use of laxatives. In consequence the appetite improves more rapidly, urination is spontaneous and the use of the catheter is avoided. The over-filling of the bladder, which promotes prolapse of the vaginal wall, does not occur; but the greatest benefit from the early getting up is the early exercise of the muscles of the body and the support which the circulation and the heart action receive through it. Kustner, in his clinical experiments, made a careful selection of his patients and eliminated those who, during delivery, had received injuries to the vestibule, perineum, vagina and cervix. He also eliminated those that came into the hospital already infected and those who had an active gonorrhœa; also those that had been delivered by instruments and those whose labors, while spontaneous, were prolonged. In general, his patients were allowed to get up on the third or fourth day and some as early as the second day. At first they were allowed to get up for one hour only, but gradually the length of the time sitting up was increased, so that on the fifth, sixth and seventh day they were out of bed all the time. A T-bandage was then put on and they took charge of the child themselves. Under the condition that the labor and the lying-in period be under the control of the physician, he holds that the carrying out of these measures in private practice is practicable.

From Bumm's clinic in the Charite in Berlin it is stated by E. Martin, Jr., that women without regard to the number of previous births and ages are allowed to get up from 15 to 24 hours after labor. The exceptions to this rule are only such women as have had prolonged labor, rise of temperature; have received lacerations; who have had operative interference, or those that have some pathological condition of the heart, lungs, kidneys or blood-vessels and those infected with gonorrhœa. The getting up consists in sitting quietly out of bed and not walking around. Before the patient is allowed to get out of bed a tight abdominal bandage is put on. The following day she is allowed to be out of bed two hours in the forenoon and two in the afternoon. Martin speaks enthusiastically of the rapid involution of the uterus, which, by the



seventh day, is about the size of a small fist; is anteflexed; never retro-displaced. He also mentions the easy emptying of the bladder and bowels and the rapid general improvement. The influence on nursing is not stated. The quiet sitting up of the patient is looked upon as a light exercise which has a tendency to more rapidly build up the tissues than when the patient remains on her back without exercise. Martin advises that great care should be exercised; that only those women be allowed to get out of bed early who have no pathological condition present, and these must be kept under careful medical supervision.

Pfannenstiel broadened the indications for early rising. He includes such cases as have had the forceps applied or have had a version done; also severe postpartum hemorrhage was no contraindication. As contraindications he mentions septic and gonorrhœal infections or suspected infections; severe instrumental cases, with severe injuries to the birth canal; prolonged labor, with much pressure and severe lacerations of the perineum. On the first day greater freedom of motion in bed is allowed than formerly. The patient was prepared for getting up by gymnastic exercises. From the first day of her lying-in, while lying on her back, the woman was instructed to draw in the abdominal wall as deeply as possible about ten times. She was to repeat this exercise four or five times a day. She followed this by bringing the body to the sitting posture in bed first with and afterwards without assistance. Afterwards, while in a reclining position, she was instructed to rotate the separated, outstretched legs as an exercise for the muscles of the floor of the pelvis. Out of bed the trunk is exercised by flexions and turning from side to side. These exercises should be taken carefully and without violence. When the woman first gets up she is allowed to sit in a comfortable chair for half an hour, after which she takes a few steps back to bed. On the following day she can, both in the morning and afternoon, sit up out of bed and walk a few times up and down the room and on the fifth day she can remain up six hours. After the mid-day meal she remains quiet for two or three hours. When out of bed she wears a broad linen bandage. Of 100 patients three were allowed to get up on the first day, 61 on the second day, 19 on the third day, and 18 on the fourth day. Of these 90 pursued the usual course. A few times the patients were obliged to return to bed on account of weakness, profuse lochia,

pain in the region of the thighs, irregularity of pulse or giddiness. In the latter case it was on account of myocarditis. Ten of these patients who had arisen early had a rise of temperature, seven had a fetid lochia, and of these seven, two had cystitis. Two patients had infections of the breasts, one angina, two fainting spells. Of the latter one was a very weak woman, who lost 1500 cm. of blood postpartum, and the other a girl who, during her pregnancy, fainted daily. He emphasizes the fact that the resistance to cold and infection are increased and that through the upright position the lochia is improved and the ascension of the lymph in the uterus is retarded. A good tone in the abdominal wall and the exact closure of the introitus is observed. The body of the uterus is drawn strongly forward and the cervix moves back between the sacro-uterine ligaments. In this way the vagina is made tense and stretched backward. The stretching of the vagina in connection with the plane in which the vagina is thrown prevents the descent of the uterus. The general condition of the patients improved rapidly. This was especially noticed in women who had had severe postpartum hemorrhages. After six or seven days one can scarcely recognize that the patient has been recently confined. Women who have had several children declare that after previous confinements they were not so well and did not recuperate so rapidly as they did when they were allowed to get out of bed early.

Kronig considers anemia, general weakness, heart disease, varicose veins, definite and threatened infections as especially strong indications for getting the patient out of bed as early as possible. In the Friburg clinic he has made the most extensive and courageous changes in the management of the lying-in period. This consists in getting the woman out of bed eight hours at the earliest postpartum. Through the administration of scopalamin and morphia he relieved the labor pains in about 80 per cent almost completely. After this he found that the patients were so well that he met no objections when they were ordered to leave the bed eight or ten hours after labor. He considers that gymnastic exercises are important in the promotion of involution. These consist essentially in lifting the body repeatedly and in the exercise of the glutei and abductor group, which tend to stiffen the floor of the pelvis. After eight days he adds to this treatment hot and cold baths

with massage. It is very easy to see the improvement in the general condition of these patients over what it was under the old regime. Still clearer is the influence upon the morbidity. The ones who get out of bed early more seldom have fever than did those who formerly stayed long in bed, and this improvement in the morbidity was obtained without any disinfection of the internal or external genitals. Thromboses and emboli have decreased among those who get up early and the ability to nurse has been improved. The early rising from bed does not increase the tendency to retrodisplacements and prolapse of the vagina, as has been stated, but even has a tendency to prevent it. Up to the present time too much importance has been attached to the ability of the uterine ligaments to prevent prolapse. Since the investigation of Tandler and Halban it has been proved that the essential cause of prolapse is the insufficiency of the muscles of the floor of the pelvis. Methodical exercises will best counteract this weakness.

Mullerheim confesses that in the beginning he was doubtful about the value of these new methods of treatment, but under the influence of Martin he has changed many things in his methods of treating lying-in patients. In suitable cases he uses the gymnastic exercises and gets many of his patients out of bed earlier than formerly. He has also discovered a way by which the weaker patients to whom the getting out of bed is rather too strenuous can get something of the advantage of the sitting position. He accomplishes this by the use of a bed, the mattress of which is fixed at a point near the middle, but the upper half can be elevated in such a way as to put the patient in a sitting position without otherwise disturbing her. She is comfortable and not disturbed by moving. In opposition to the opinion of others he holds fast to the idea that patients who are running a temperature must not be included among those who get up early, not only until the cause of the rise of temperature is determined, but also until the fever has entirely disappeared. He thinks that the value of the exercise in bed is not to be doubted, but it is not certain whether the exercise should be begun as early as the first or second day.

Stroganoff\* bases his conclusions on the study of 8000 cases in his hospital at St. Petersburg. He has found that his patients do better when

\* Stroganoff: "Shorter Lying-in Period Recommended." *Monat. fur Geburt. und Gyn.*, Berlin, Dec. '12.



they get up on the third day, or sometimes, in the case of primipara, on the fifth day. The upright position favors the discharge of the lochia, stimulates the action of the bowels and bladder and prevents fecal absorption. Gain in weight begins quicker on account of better appetite, and the involution of the uterus is hastened and backward displacement is prevented by the erect position.

It is very clear that the German clinicians have not come to any unanimous conclusion as to how early lying-in patients should leave the bed or what class of patients should be exceptions. It is clear that a great advance has been made and that in the future the lying-in period will be not only more comfortable, but attended with less danger. We may not be able to agree with Kronig that a patient can with benefit leave the bed eight or ten hours after labor, but we must admit that he has demonstrated that no particular harm results from it.

I confess that I cannot understand the position of Mullerheim and others who insist that patients running a temperature above normal should be kept in bed. Infections during the puerperal period without going into details can be divided roughly into two groups; those in which the infection has not extended as far as the peritoneum, and those in which the peritoneum is involved.

From my own experience and from that of many others it is known that drainage is the essential therapeutic measure in the first group; that the surest way to procure drainage is to take the patient out of bed and place her in a comfortable chair. For many years now I have regarded the sitting posture as the most important part in the treatment in these cases, and in the majority of instances is the only treatment used. It will be of no particular value to rehearse the histories of individual cases. Many physicians are timid about taking a patient out of bed who is running a high temperature. As a fact, the higher the temperature is the more erect the patient should sit and the longer time she should be kept up. In other words, when drainage is most demanded improve the possibilities of drainage to the utmost.

In the second group of puerperal infections, or those in which the peritoneum is involved, a seemingly different problem is present, but the same principle holds good. In septic peritonitis, due to an infection from any source, the first step in the modern treatment is to

put the patient in a sitting posture. The efficiency of the sitting position in the treatment of peritoneal infections originating above the brim of the pelvis has been on trial so long and has so many of our ablest observers to confirm its results that its value is no longer doubted. Now, if the sitting posture has been found beneficial in infections of the peritoneum originating above the brim of the pelvis, we would reasonably expect it to be even more efficient in the infections that begin within the pelvis. As a matter of fact, any form of puerperal infection is benefited by putting the patient in the upright position.

In those cases in which the peritoneum is involved there is much less tendency for the infection to spread to the general peritoneum. The localized infection, however severe, can, as a rule, be successfully dealt with, either by waiting for resolution or by drainage, according to the changes that take place as a result of the infection.

In those cases in which the peritoneum is not involved drainage, the only remedy of value, is promoted.

The following conclusions are conservative:

I. The actual time of continuous confinement to bed after a normal labor can be materially shortened with distinct advantage to the patient.

II. The patient must be made to understand that the early getting up means sitting quietly in a comfortable chair and that she is not out of the charge of the physician.

III. Regular exercises that throw into use the muscles of the abdominal wall are of undoubted value.

IV. Retrodisplacement, prolapse of the uterus and cystocele do not result from early sitting up postpartum.

V. Patients suffering from puerperal infections in all forms are benefited by the upright position.

VI. Lacerations of the perineum and injuries to the lower segment of the uterus are not contraindications for early rising after labor.

## PRACTICAL RESULTS OF SURGERY IN EPILEPSY.\*

BY G. KIRBY COLLIER, M. D., SONYEA, N. Y.

I would like to state that I have nothing new to present relative to the surgical treatment of epilepsy, but merely to report the results in a series of cases operated upon at the Craig Colony, and to reiterate a few facts relative to surgery as an aid in treatment, emphasizing the importance of most careful medical treatment, both before and after surgical intervention.

I think it is recognized by all that surgery is responsible for a great deal of damage done to the epileptic. It is not my object, however, to criticize the surgeon, but it is nevertheless true that many epileptics would have shown improvement had they never received indiscriminate surgical treatment earlier in their epileptic life. It is not to be understood by this that I refer to the organic cases that show tumor of the brain, etc., nor to the traumatic cases with a definite history of an injury. I think that the untoward effects consequent upon surgical treatment are due to the fact that all operative procedures have been directed to the brain and not enough attention paid to other abnormalities.

Only a few years ago it was claimed that 50 to 60 per cent of those cases trephined recovered, but to-day it is evident that a much smaller number, probably only 4 or 5 per cent, show any marked improvement. The earlier observers were misled by the fact that the greater number of epileptics improved after any surgical intervention, just as there is frequently a lessening in frequency, and even at times a cessation, of seizures following an acute infection or illness. This may be due in part to the anæsthetic or to the more careful supervision of the patient while under surgical treatment. The subsequent history of the greater number of these cases shows, as a rule, that there is return of the seizures. No cases of epilepsy should be reported as having recovered following any surgical intervention until at least two years have elapsed following the last seizure, and it would probably be safer to say five years.

In all cases of supposed traumatism a most careful examination should be made as to the nature of the injury, the character and mode of onset

\* Read at the annual meeting of the Medical Society of the State of New York, at Albany, April 17, 1912. Reprinted from New York State Journal of Medicine, November, 1912.



of the seizure, and lastly, but most important, the fact that the traumatism may only have been an incident, must be well considered.

In those cases with local symptoms, excision of the irritated portion of the cortex is of benefit in a small number, and only where operation is done early. On the theory that the idiopathic cases might have been due to an anæmia of the brain, excision of the cervical ganglia of the sympathetic system was first recommended by Jennesco, the effect of the operation being similar to that obtained by the use of amyl nitrate. In 1902 Winter collected 213 cases and reported a recovery rate of 6.6 per cent. In 1903 Dr. Roswell Park did a bilateral cervical sympathectomy upon three patients at the Craig Colony, the report of which was published in the *Journal of Nervous and Mental Diseases*, April, 1905. Case No. 1 had three seizures within four months following the operation, but since then he has had none, and is now a successful attorney in a western city. Case No. 2 was removed from the Colony about six months after the operation, but we have since learned that she has continued to have seizures and frequent periods of status. Case No. 3 is still at Sonyea and averages from five to eight seizures per month.

We scoff at the idea of reflex epilepsy, but undoubtedly the early removal of some source of irritation, such as enlarged tonsils, refractive errors, etc., however remote it may be from the brain, will at times be followed by favorable results. Many of the gastro-intestinal disorders complained of by the epileptic may be, and probably are, due to some abnormal intestinal condition, and why should not this reflex irritation such as a diseased appendix or gall bladder, be attacked by the surgeon? Removal of the appendix, correction of an angulation of the descending colon, and many other operations have been recommended. La Place in 1906 made a preliminary report of four cases which he treated by appendicostomy with colonic irrigation. All four patients showed a lessened number of seizures following the operation, but I have been unable to find any further report of these cases. Stewart McGuire has reported one case of recovery following appendectomy.

In the series of cases now to be reported as having been operated upon at the Craig Colony there were 12 appendectomies. Eight of these showed no improvement, and four have improved.

In December, 1911, we admitted to the Craig Colony a man, aged 36 years. History of onset of seizures at the age of 18 years. He had a large

tumor mass of the left lumbar region, this being about seven inches long and five inches wide. He stated that this tumor had been present since the age of 14 years and had been gradually increasing in size. In February, 1912, this tumor was removed and found to be a fibro-lipoma. Patient stated that preceding seizures he had a peculiar sensation in the region of the tumor and occasional photophobia. Attacks did not always occur whenever he had a pain in this region, for by brisk rubbing when he first felt the pain in this region he could sometimes prevent the attack. Since the removal of tumor patient has had no seizures. Of course, sufficient time has not elapsed in this case to prove anything. This man's history shows that he had one sister insane. Otherwise negative.

In August, 1911, there was admitted to the Craig Colony a man (I. V.), aged 22 years. Family history of insanity, alcoholism, epilepsy, rheumatism and tuberculosis. Following a herniotomy in January, 1910, he had his first seizure and they have recurred at intervals since that time. A few months later he was operated upon for appendicitis. After his admission to the Colony he continued to have a large number of seizures, frequently in series, and complained of abdominal pain. He showed a post-operative hernia, and in January, 1912, at Sonyea, the abdomen was opened with the intention of repairing this hernia. A large mass of dense adhesions were found about the cæcum. This man had no seizures for about three weeks following the operation, but he has been having an occasional seizure of late. However, they do not occur as frequently as before, but I would like to mention that a sufficient period of time has not yet elapsed in this case.

Among the minor surgical procedures that may be mentioned is lumbar puncture. Theoretically, lumbar puncture would be indicated in epilepsy if the increased intracranial pressure existed before the seizure. Many reports have been made as to patients treated by lumbar puncture, but the results recorded have usually been unfavorable. My own experience has shown me that lumbar puncture is of value in the treatment of status conditions, along with other treatment, but as to any permanent benefit, I do not believe that we can expect any.

Alexander in the London *Lancet* of September 30, 1911, calls attention to the presence of oedema beneath or in the pia arachnoid, and cites 20 cases in which he has operated, in all of which there has been a retardation in the progress of the disease. He states: "In these cases the affected

motor area is covered by more or less œdema of the pia arachnoid, and this œdema probably so affects the cells of the cortex as to produce or cause the epilepsy or imbecility." The operation which he calls "fenestration of the dura mater" consists in the removal of a larger or smaller area of skull and draining the œdematous pia by multiple incisions.

We have done this operation in a somewhat modified form at Sonyea in six cases and I append herewith a summary of them:

P. H. (2722). Admitted March, 1909.

A well nourished and muscular adult, aged 28 years. Family history negative as obtained. Assigned cause, indigestion. History of scarlet fever at 10 years and a blow on the head at 11 years. Prior to admission general convulsive attacks occurred every week. Preceding seizures, for about ten minutes he had convulsive movements of the left palpebral muscles and left hand. Mental status very fair. Later aura involved the leg, but was not always followed by a convulsion. In April, 1910, a fenestration operation was done in two stages over the right motor area. Four three-quarter inch trephine openings were made, they being then connected with a Gigli saw, except at the base. The osteoplastic flap was then turned back and multiple incisions were made in the dura, permitting the escape of considerable fluid of a gelatinous nature. Marked increased intra-cerebral pressure. Patient made an uninterrupted recovery. During 1909 this man had 29 seizures. He was discharged in October, 1910. Re-admitted on December 8, 1910. During the 11 months in 1910 that he was at Sonyea he had one (1) seizure. During 1911 he had 22 seizures, and during the months of January and February, 1912, he has had two seizures.

C. D. (2285). Admitted in October, 1907. Aged 17 years. Family history negative as obtained. First seizure at the age of 15 years, on the day following a fall through the ice. Aura formication and numbness. A well nourished young man. High grade imbecile. In 1910 fenestration operation was done in two stages, with drainage as in previous case. Patient made a good recovery from the operation. Record of seizures as follows:

1907 .....	20
1908 .....	82
1909 .....	70
1910 .....	40
1911 .....	40
1912 .....	12

W. D. (2479). Admitted May, 1908. Aged 22 years. Family history negative. First seizure at the age of 14 years. As the assigned cause it was stated that the patient had a fall on the pavement, striking on forehead, about a year prior to his first seizure. Preceding admission, seizures occurred about four or five times a week. In January, 1910, a fenestration operation was done. Record of seizures as follows:

1908 .....	20	seizures
1909 .....	26	"
1910 .....	27	"
1911 .....	12	"
1912 .....	0	"



H. E. (205). Admitted April, 1907. Aged 31 years. Father alcoholic. First seizure at the age of eight years. Supposed to have been due to fall from wagon. At the time of admission attacks occurred daily. Fenestration operation done on this patient in February, 1911, and on the day following his death occurred, autopsy showing that death was due to chloroform necrosis.

W. B. (3395). Admitted October, 1911. Aged 21 years. Family history negative. Age at onset 11 years. Assigned cause, forceps delivery. Prior to admission seizures occurred every two or three days. Aura dizziness. Seizures occurred at frequent intervals, and prior to the operation they were of an incomplete type, characterized by convulsive movements of the left arm and leg and of the face. No loss of consciousness at these times, but he had frequent Grand Mal attacks. Fenestration operation was done on March 11, 1912. Marked intra-cerebral pressure, with the exit of thick gelatinous fluid. Patient made a good recovery from the operation and has had no seizures up to this time. Seizure record as follows:

1911.	
October .....	150
November .....	43
December .....	431
	<hr/>
	624
1912.	
January .....	203
February .....	5
March .....	148
	<hr/>
	356

F. A. C. (2860). Admitted December, 1909. Aged 26 years. Family history negative. Convulsions occurred during dentition and they have recurred at frequent intervals since. Prior to admission they occurred every two or three weeks. Mental status fair. For some time after admission he complained of abdominal pains, referable to the right iliac region, and in September, 1911, an appendectomy was done and at the same time the cæcum and ilium were released from peritoneal adhesions and bands. Patient made a good recovery from this operation, and on March 31, 1912, a fenestration operation was done, from which he also made a good recovery. Too short a time has elapsed following the operation in the last two cases to show anything. Records of seizures is as follows:

1909 .....	6 seizures
1910 .....	27 "
1911 .....	43 "
1912 .....	14 "

Venesection as a surgical aid is not practised as frequently now as it should be. Physicians of former years used this in the treatment of various conditions and probably brought it into disrepute by its overuse. To-day we find many medical men opening the median basilic or some

other vein for the treatment of pneumonia or some other conditions, and it has proven of value in the treatment of status. It is my plan to open the median basilic vein and at the same time give a normal saline solution intravenously or subcutaneously. Results, as a rule, have been very favorable.

I append herewith a list of the surgical cases at the Colony, not, however, as you will see, to demonstrate any remarkable results as regards the improvement in the patients' epilepsy. In some there has been a very noticeable improvement in their epilepsy, and in all some improvement in their general health. It should be remembered that these patients were all cases of long standing, as it is very difficult to get the relatives of patients to send them to a public institution until they have tried every other means at their command.

#### SUMMARY.

	No. of Cases	No Im- prove- ment	Im- proved	Re- covered
Fenestration of Dura.....	7	2	5	0
Appendectomy .....	12	8	4	0
Appendectomy with Resection.....	1	0	1	0
Adenectomy .....	1	1	0	0
Herniotomy .....	3	1	2	0
Tonsillectomy .....	5	3	1	1
Nephrectomy .....	1	0	1	0
Salpingo-Oophorectomy .....	3	3	0	0
Salpingo-Oophorectomy and Appendectomy..	3	2	1	0
Salpingo-Oophorectomy and Ventro-suspension	2	0	2	0
Plastic Operation, Abdominal Wall—Hernia..	2	1	1	0
Removal of Hemorrhoids.....	4	4	0	0
Hysterectomy .....	1	1	0	0
Circumcision .....	19	14	4	1
Totals .....	64	40	22	2

#### CONCLUSIONS.

1. Early in the patient's epileptic life, surgery can be of benefit, and but little can be expected in cases of long standing.

2. Operations for the relief of epilepsy are undoubtedly disappointing and but seldom curative.

3. All abnormalities calling for surgical treatment should receive attention.

4. Patients under surgical treatment should be most carefully observed, both previous to and following operation.
5. Medical treatment should be continued.
6. No epileptic should be pronounced as having recovered until two (2) years, and better four (4) years, have elapsed following operation.
7. Lumbar puncture and venesection are of value in the treatment of status conditions in conjunction with other methods of treatment.

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### ANKYLOSIS OF THE SPINE.\*

BY ALEXIUS McGLANNAN, M. D., BALTIMORE.

New bone formation in ankylosis of the spine may be inflammatory projections from pre-existing bone, ossification of the soft tissues, or regenerative formation repairing bone destruction. All three processes lead to a stiffening of the vertebral column, varying, however, in pathological anatomy and etiology as well as in their clinical course. They therefore require different forms of treatment.

The first variety, that due to inflammatory new bone, is the common osteo-arthritis of infection (spondylitis deformans). Any of the ordinary pyogenic bacteria, the gonococcus, typhoid bacillus or pneumococcus may be the etiological factor. Traumatism is the cause in certain cases. For example, a severe blow or weight striking the dorsal region may straighten the normal backward curve so suddenly that the anterior ligament will be torn from the edges of the vertebral bodies taking with it a strip of periosteum. Later this transplanted periosteum develops into a bony process. Or the violence to the spine may result in a hematoma in or about the ligamentous attachments, which later on becomes ossified by ingrowth of osteoblasts from the adjacent bone.

The essential pathological condition in this form of ankylosis is the occurrence of irregular protuberances of new bone formation, which encroach on all the peri-articular structures. The column may be straight or curved, but the deformity is very apparent. The anterior or common

\* Specimens from the Museum of Surgical Pathology, College of Physicians and Surgeons, Baltimore. Reprinted from the Old Dominion Journal of Medicine and Surgery, January, 1913.



ligament is irregularly thickened and ossified throughout or only in part. The ossification is beaded, thicker at the level of the discs than at the level of the bodies. There are bony protuberances at the level of each disc, including more or less its entire breadth. When the bodies are not fused together by the disease, their surfaces are enlarged by a protruding margin of new bone from superior and inferior edges. All the processes of the vertebræ are thickened and more or less fused together by the ossification of the ligaments. This new bone gives a puffed-out appearance (*soufflées*) to the structure.

The intervertebral foramina are irregularly narrowed by the thickening of the pedicles, and by osteophytes, therefore causing nerve root symptoms.

The second variety of ankylosis is that of the disease, *Spondylose Rhizomelique*, as described by Marie in 1898 and further studied by Leri (*Revue of Neurology and Psychiatry*, 1908, No. 6). Here the pathological condition is a bony metamorphosis of the spinal ligaments, a change in the substance of the ligament itself, practically fiber by fiber, forming no projections and protruding in an almost regular manner.

The contour of the column is normal except for a marked regular curve backward.

The anterior common ligament is seldom ossified, and the discs are only occasionally involved. The spinous processes are fused together by ossification of the interspinous ligaments. The articular processes are fused by a bony collar of ossified articular ligaments. The laminae are connected by ossified ligamenta subflava. Ossification of the costotransverse and costovertebral ligaments fixes the ribs to the spine.

Joints other than the vertebral are also affected. Always those having an interarticular fiber cartilage and a capsule, so that the ankylosed joint shows a surrounding collar of bone with preservation of the interarticular space. The hip, shoulder, knee, sternoclavicular and temporomaxillary joints are the ones most likely to be involved.

*Spondylose Rhizomelique* is primarily a disease in which the bone is softened and rarefied becoming thin and friable. The original deformities are the twists and bends from weight bearing and muscular action. Ossification of the ligaments is an adaptative process, an effort to supply rigidity by metamorphosis of tissue.

It is well known that bone under the stimuli of pressure and of traction will develop in a degree sufficient to meet the requirements of the condition. The strong ridge developed for attachments of powerful muscles is an example. Helzknecht (quoted from Leri (l. c.) from a study of X-rays of fractures, dislocations and nervous arthropathies, believes that an extension of this osteogenetic power to the soft connective tissue occurs in certain conditions where pressure and traction have become abnormal.

"These new formations compensate in a crude and, therefore, all the more striking way the impaired equilibrium of the bones. They supervene when the skeleton can no longer compensate the disturbance by a transformation of its own internal substance. They do not occur accidentally here and there. They do not appear ever to be primary, but always secondary, and the primary modifications are always coarse destructions of the skeleton, of passive maintenance of the weight of the body, which on one hand markedly diminishes its solidity, and on the other hand produces this modification."

Proof of the purposeful action of the process of ossification is shown by the fact that the change always occurs in that position which gives the best assistance for limiting the deformity. The secondary ossification in a healed Potts' disease is in the ligamenta flava, which have been overstrained in the attempt to preserve the equilibrium of the column, while the softened body gave way in front. So in Spondylose Rhizomelique the ossification affects most markedly the ligaments on the convex side of the vertebral column.

The third variety of ankylosis is that due to regenerative formation repairing bone defects. Healed tuberculosis, fractures, gunshot wounds, etc., of the spine show this form of ankylosis. The degree of ankylosis varies with the amount of reaction and especially with the position of the new bone formation. As noted before, the traction and pressure of the primary deformity may lead to compensatory ossification of the soft structures with consequent extension of the ankylosing process.

We will not discuss the symptomatology of the regenerative form of ankylosis, because recognition of the primary disease will have prepared the surgeon for signs of interference with other structures during the process of regeneration of bone.

It is important, therefore, to distinguish between the ankylosis of infections, osteoarthritis of the spine, and that of Spondylose Rhizomelique because each of these varieties requires a method of treatment essentially different from the other.

Osteoarthritis occurs most often in patients past middle life, or in the very old. The original focus of infection is usually dormant or extinct. The spine is attacked after other joints, especially those of the fingers have become involved, while the large joints usually escape. The disease progresses by a series of attacks. The ankylosis may be general or local, but most often affects the cervical and the lumbo-dorsal regions of the spine. The deformity may be a kyphosis, or it may take the form of a ramrod spine. With a curvature the chest becomes barrel-shaped, never flattened. Pain is variable, and intermittent; general, or limited to one area, frequently very severe. After the development of ankylosis, local symptoms of nerve root pressure are common.

Spondylose Rhizomelique attacks the young adult. The causal infection is likely to be still active. Ankylosis begins in the spine and is limited to the column and to joints having a capsule and an interarticular cartilage. At the onset pain is general, but soon becomes localized in the sacro-coccygeal region and is frequently very violent and persistent. As ankylosis of the lower portion of the column and pelvis becomes firm, the pain ceases. Almost simultaneously with involvement of the lumbo-sacral region, the hips become ankylosed with or without local pain. The hips may become fixed in extension or half-flexion. Following this ankylosis there is a period of remission which in turn is followed by change in the dorsal region. This may be painless. Later the cervical column is affected, when there occurs violent pain in this region, with bending of the neck and a forward thrust of the head. At this time the shoulders are likely to be involved, abduction and elevation of the arm being limited and any movement associated with crepitation. Ankylosis in the shoulder is seldom as complete as it is in the hip. Another evidence of the purposeful action of the ankylosis. The sternoclavicular and the temporo-maxillary joints may be involved early, most often with local pain.

The thorax is flattened in a marked degree, while the pelvis is deformed in a characteristic ace of hearts contour.

With the ankylosis the pain ends, and except for the deformity the patient is not further disabled.

X-ray shows an abnormal transparency of the bones of the spine and pelvis.

Treatment of infectious osteoarthritis of the spine is the same as in other joints. When an active or dormant source of infection is found, this should be removed. Internal medication, baths, etc., are useful. Fixation of the spine is not required. For the relief of nerve root pressure, surgical operation to widen the intervertebral foramina is indicated.

Spondylose Rhizomelique, on the other hand, requires an attack on the focus of infection, as well as the use of methods of fixation that will prevent as far as possible the development of deformity. Traction by means of a chin-strap and inclined bed, extension of the head by means of a cushion placed under the neck, etc., are methods advised. In this disease the spine is bent and twisted by a burden deformity. By relieving pressure during the stage of ankylosis much of this disfigurement may be prevented. The large joints should have rest and passive motion.

Operation for relief of the deformities should not be undertaken until the period of ossification is completed. Otherwise, the attempt will end in failure as did Nelaton's operation for mobilizing the hip by resection of the head of the femur. Soft tissue transplanted into the joint during this stage will be ossified, because the weakened bone requires support from unyielding ligaments in order to carry the burden put upon it.

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## Correspondence.

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NOBLE, LA, March 6, 1913.

*Dear Doctor Brack.*—Enclosed find check for \$2.00; kindly give me credit for same. Always glad to get the JOURNAL and to hear of the P. & S. boys, and my class, '96. Am still doing a contract practice for a lumber firm and also in the banking business. Am thinking of getting away awhile and doing some P. G. work.

Kindest regards and best wishes for the P. & S. and JOURNAL.

Yours truly,

S. E. PRINCE.



Duquesne, Pa., March 4, 1913.

*Dear Doctor Brack.*—Enclosed find check for one dollar (\$1) for JOURNAL, the contents of which are always appreciated.

Doing well and hope I can hear the same from all P. & S. boys.

A Dr. C. F. Keyser lives and practises here; has been here for a quarter of a century; '86 man. Give my regards to all the boys and when I find a few moments spare time shall be down to pay a visit to my Alma Mater. Remain,

Yours truly,

CHAS. W. COHN.

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LEXINGTON, N. C., Feb. 12, 1913.

*Dear Doctor Brack.*—Please find enclosed check for \$2.00 to be credited on subscription for JOURNAL OF THE ALUMNI ASSOCIATION. How about a grand reunion of that great and illustrious class of 1893? The twentieth anniversary. This is the greatest class of times present, of times past, and probably of all times to come. Please see Blake, and any other of the boys of '93 and see what can be done. Some of the Carolina boys are eager for the reunion. With best wishes for yourself and for the old C. of P. & S.

DAVID J. HILL, '93.

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ATLANTA, GA., June 17, 1913.

DR. CHAS. E. BRACK.

*My dear Doctor.*—I am enclosing you a clipping of an Atlanta paper, of the sad news of the death of Dr. G. O. Brinkley, a graduate of the College of Physicians and Surgeons, Baltimore, class '02. He was also Dr. Ulman's and my room mate at Bayview Hospital. Kindly have same posted.

Am very well satisfied with my location and work in Atlanta. Give my regards to all my friends at P. & S.

Yours very truly,

C. WALKONIG, PH. G., M. D., '02

WILLIAM S. GARDNER, M. D., Editor,  
6 W. Preston Street.

JOHN RUHRÄH, M. D., Associate Editor  
839 N. Eutaw Street.

CHAS. EMIL BRACK, M. D., Business Manager,  
500 E. Twentieth St.

# THE JOURNAL

## OF THE ALUMNI ASSOCIATION

OF THE

### COLLEGE OF PHYSICIANS AND SURGEONS,

### BALTIMORE.

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#### HOSPITAL NOTES.

About any hospital where there are a large number of internes, visiting men and casual visitors there is constantly coming up for brief discussion some point that, for the moment, is uppermost in the mind of one of the talkers. The ideas expressed are, as a rule, not new; but since the explanations and comments are usually made for the benefit of some one who is not familiar with them it is possible that there are others who would be interested.

For example, take these instances: One of the visiting staff remarked that he had a patient that suffered very severely at every menstrual period; that no medicine seemed to do any good and inquired of one of the other visiting staff what he thought could be back of the trouble.

A few inquiries brought out the statement that the pain in the pelvis always began about a week before the flow appeared and was associated with a severe occipital headache.

The explanation made was that the variety of dysmenorrhoea described was always of ovarian origin and practically always due to a prolapsed cystic ovary, either with or without a uterine retrodisplacement; that the only thing that would relieve the patient was to fix the ovary in its proper relation to the uterus, and if there was a uterine displacement to correct that by a suspension.

One of the internes remarked that he had a new patient under his care that had been bleeding from a big fibroid for the past three weeks; that he had asked one of the visiting men to look at her and the opinion had been expressed that the patient had a pelvic abscess, but the interne did

not see how that could be, because there was no rise of temperature. Then the following dialogue took place:

"How old is the patient?"

"Thirty-two."

"How many children has she had and when did she have the last one?"

"Four children; the last one about 18 months ago."

"What is the menstrual history?"

"Since she stopped nursing her menses were regular every 28 days, except that the last interval was just a few days more than usual, and when the flow began there was more pain than commonly, and there has been a slight continuous bleeding ever since."

"I think that you had better look that patient over again and think about a ruptured extra-uterine pregnancy."

The following day a ruptured tube and a mass of blood clots were removed from this patient.

One of the dispensary physicians was showing a case of gonorrhœal infection of the cervical mucosa, and said that he had been treating it with iodine and glycerine tampons. Then after introducing a speculum and wiping the accumulated discharges from the vagina, he pushed an applicator, wrapped with cotton and saturated with tincture of iodine, high up into the cervical canal. The auditor explained that the method used was one of the surest ways in the world to start up a salpingitis; that a cervical infection will frequently not extend beyond the internal os unless it is assisted by the physician using some method similar to the one he had just put into practice. When a gonorrhœal infection once passes the internal os and invades the endometrium it almost invariably extends to the tubes very quickly, and for that reason it is best to omit direct applications to the cervical mucosa and rely upon glycerine tampons.

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### THE COMMENCEMENT.

The Forty-first Annual Commencement of the College of Physicians and Surgeons was held Thursday afternoon, June 5, 1913, at Albaugh's Theatre. The exercises were opened by a prayer by Rev. Thos. E. Lyons.

The graduates were announced and the degrees were conferred by Professor William Simon. The prizes were awarded by Professor C. Hampson Jones. The oration was delivered by William L. Marbury, A. M., LL. D., of the Baltimore Bar. Sixty men who had completed their four years received their diplomas. The college prizes were awarded as follows:

Raymond J. Quinn, Mass., first prize (gold medal).

Kenna Jackson, W. Va., second prize (gold medal).

Ernest F. Flora, Va., third prize (gold medal).

Rafael Bernabe, Porto Rico, fourth prize (gold medal).

Worthy of Honorable Mention:

Geo. W. Abersold,	C. D. Hamilton,	W. B. Schapiro,
R. M. Bonnitt,	E. F. Harbert,	Elias C. Segarra.
Hugh Dunn,	Wm. E. Myles,	

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## MERCY HOSPITAL APPOINTMENTS.

MEDICAL SUPERINTENDENT, EDWARD P. SMITH.

### RESIDENT PHYSICIANS.

A. M. Evans,	Chas. L. Mowrer,	H. L. Brillhart,
Louis D. Barnes,	L. T. Rusmiselle,	Wm. E. Myles,
John F. Spearman,	E. F. Flora,	A. M. Larsen,
W. W. Point,	N. L. Kerr,	Frank Paul,
W. L. Brown,	Raymond H. Ryder,	Thos. F. Keating,
S. E. Endfield,	Roland E. Wynne,	Percy P. Hartt.

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## ALUMNI BANQUET.

The annual banquet of the Alumni Association was held at the Hotel Rennert on the evening of Wednesday, June 4. Toastmaster, Dr. Alexius McGlannan. The toast to the class of 1913 was responded to by Dr. R. S. Olsen of Utah; the toast to the faculty, by Dr. Harry Friedenwald; to the class of 1903, Dr. Magner; to the adjunct faculty, Dr. Geo. W. Mitchell.



The following officers of the Alumni Association were elected:

President, Dr. T. R. Paganelli, '03, New York City.

Vice-President, Dr. Leslie T. Rusmiselle, '13, Mercy Hospital.

Second Vice-President, Dr. A. Samuels, '98, Baltimore.

Secretary, Dr. H. K. Fleckenstein, '04, Baltimore.

Treasurer, Dr. Chas. E. Brack, '95, Baltimore.

Publication Committee	{	Editor, Dr. Wm. S. Gardner, '85.
		Assistant Editor, Dr. John Ruhrah, '94.
		Business Manager, Dr. Chas E. Brack, '95.

The treasurer made the following condensed financial report:

Balance June 1, 1912.....	\$14.24
Receipts .....	825.00
	<hr/>
	\$839.24
Expenses .....	790.16
	<hr/>
Balance June 1, 1913.....	\$49.08

### CLASS REUNION.

A very pleasant reunion of the class of 1903 added to the enjoyment of the annual graduation exercises. Those of '03 participating in this reunion were: C. E. Abbott, Elmira, N. Y.; J. H. Boyles, Greensboro, N. C.; T. J. Cummins, Plattsburg, N. Y.; E. B. Friedenwald, Baltimore, Md.; J. J. Heck, Baltimore, Md.; J. E. Hoole, Somerville, Mass.; W. A. McMillan, Charleston, W. Va.; J. J. Magner, New York, N. Y.; R. J. Marvel, Orleans, Mass.; T. R. Paganelli, New York, N. Y.; A. E. Ries, Baltimore, Md.; C. F. Sargent, Towson, Md.; E. W. Sprague, Newark, N. J. Many of the class were heard from, sending greetings and expressing regret at being unable to be present.

A series of clinics was arranged for the visiting alumni which was greatly appreciated. At the alumni banquet the naughty three boys occupied a table in the center of the hall and were quite in evidence and helped to enliven the occasion. In fact, one was taken back ten years when this rather noted class graduated.

A very pleasant class smoker was held on the roof garden of the Kaiser the night following the banquet.

While not as many of the men as were expected were present, the reunion was most enjoyable and another reunion in 1918 was agreed upon.

The class was honored by having one of their number, Dr. T. R. Paganelli, elected President of the Alumni Association of the College.

Dr. Charles E. Brack, 500 E. 20th Street, wishes to have the addresses of the following alumni:

Jos. Sherman Craig, '12,	H. Guy Morgan, '06,
Thos. C. Bullock, '85,	J. S. Mosher, '91,
L. E. Conradi, '92,	E. V. Murphy, '99,
G. F. Grisinger, '10,	Edw. J. Pinkus, '11,
Geo. L. Hilton, '02,	I. W. Umbel, '06,
J. Milton Long, '85,	Samuel Aronowitz, '12,
Clarence J. MacDonald, '03,	W. A. Carr, '07.

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#### DR. BRINKLEY KILLED.

SAVANNAH, June 17.—Dr. Guy O. Brinkley and Mrs. Eugene H. Whisnant are dead as the result of a double tragedy in the offices of Dr. Brinkley, a prominent young physician, late yesterday afternoon. Mrs. Whisnant killed Dr. Brinkley and immediately committed suicide with a .32 caliber automatic revolver. She fell dead across the body of the slain physician with a bullet through her brain. She fired six shots at him, chasing him from room to room of his suite, the fifth and sixth bullets taking effect in the brain and heart. One more shot ended her own life.

Those who investigated the tragedy are of the opinion that the woman was mentally deranged, having suffered from a nervous affection and melancholia. She had been a patient of the physician. It is believed that she slew Dr. Brinkley while obsessed with the idea that he had failed to relieve her suffering.

Mrs. Whisnant, accompanied by another woman, whose identity has not been disclosed, went to the physician's offices, with the pistol concealed in the folds of her dress. When she entered his private office, where he was seated at his desk, she began firing. Her companion fled.

The doctor's negro maid rushed for the police. When she returned both were dead.

Dr. Brinkley came here from Suffolk, Va., several years ago. He was single, and prominent in professional and social circles.

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#### DR. SWEET PROMOTED.

Dr. Grover C. Sweet, '12, at present house surgeon at St. Vincent's hospital, has been appointed radiologist on the staff and will continue in this position following the completion of his term as interne. He has made a special study of the X-ray and is considered to be an expert in this line of work. A new X-ray machine, said to be the largest and most complete in the state, has been ordered, and it is planned to make this department a leading feature of the hospital work.

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#### HOSPITAL APPOINTMENTS.

Members of the class of '13 have received the following hospital appointments.

- W. L. Brown, Mercy Hospital, Baltimore, Md.
- John Anderson, Jr., Christ Hospital, Jersey City, N. J.
- W. W. Point, Jr., Mercy Hospital, Baltimore, Md.
- E. B. Weldom, St. Michael's Hospital, Newark, N. J.
- N. L. Kerr, Mercy Hospital, Baltimore, Md.
- J. M. Heath, German Hospital, Brooklyn, N. Y.
- C. M. Peters, Christ Hospital, Jersey City, N. J.
- E. H. Hankey, St. Joseph's Hospital, Lancaster, Pa.
- W. E. Myles, Mercy Hospital, Baltimore, Md.
- R. B. Garland, St. Francis Hospital, Hartford, Conn.
- E. F. Flora, Mercy Hospital, Baltimore, Md.
- E. M. Bobbitt, Sheltering Arms Hospital, Hansford, West Va.
- J. D. Fallon, Monmouth Memorial Hospital, Long Branch, N. J.
- C. L. Mowrer, Mercy Hospital, Baltimore, Md.
- L. T. Rusmiselle, Mercy Hospital, Baltimore, Md.
- A. M. Larsen, Mercy Hospital, Baltimore, Md.
- C. P. Hartt, Mercy Hospital, Baltimore, Md.
- V. O. Humphreys, Du Bois City Hospital, Du Bois, Pa.

August N. Selurio, New York Lying-in Hospital.  
B. F. Gallant, Milwaukee County Hospital, Milwaukee, Wis.  
C. F. Nicol, St. Mary's Hospital, Brooklyn, N. Y.  
Bern V. Kelly, Mercy Hospital, Baltimore, Md.  
I. Heller, Supt., Jewish Home for Consumptives, Reisterstown, Md.  
P. N. Fleming, St. Joseph's Hospital, Lancaster, Pa.  
E. E. Wynne, Mercy Hospital, Baltimore, Md.  
A. D. Bogert, Englewood Hospital, Englewood, N. J.  
R. H. Ryder, Mercy Hospital, Baltimore, Md.  
J. F. Lynch, St. Francis Hospital, Hartford, Conn.  
T. E. Vass, Sheltering Arms Hospital, Hansford, W. Va.  
W. B. Schapiro, Hebrew Hospital, Baltimore, Md.  
S. E. Enfield, Mercy Hospital, Baltimore, Md.  
J. E. Wyant, Westmoreland Hospital, Greensburg, Pa.  
R. J. Stockhammer, German Hospital, New York.  
H. W. Straus, Hebrew Hospital, Baltimore, Md.  
R. O'B. Shea, St. Joseph's Hospital, Philadelphia, Pa.  
L. D. Barnes, Mercy Hospital, Baltimore, Md.  
Wm. J. Gatti, Adrian Hospital, Punxsutawney, Pa.  
G. H. Crofton, City Hospital, Fall River, Massachusetts.  
F. H. Janer, Municipal Hospital, Humacao, Porto Rico.  
J. F. Mumford, Jr., St. Mary's Hospital, Waterbury, Conn.  
Wm. T. May, St. Joseph's Hospital, New York.  
C. W. Finnerty, St. Mary's Hospital, Waterbury, Connecticut.  
L. P. Musser, Bingham Hospital, Bingham Canyon, Utah.  
P. P. Hartt, Mercy Hospital, Baltimore, Md.

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#### MERCY HOSPITAL COMMENCEMENT.

The Mercy Hospital Training School for Nurses held its twelfth annual commencement in the Amphitheatre of the College of Physicians and Surgeons on the afternoon of May 15.

The Dean, William F. Lockwood, M. D., awarded the diplomas to 18 graduates: Miss Maude M. Munday, Ida L. Higginbotham, Ola C. Early, Agnes C. Snyder, Kathryn M. Henson, Ada C. Donahue, Harriet J. Fort, Virgie E. Parsons, Agatha E. Grasacker, M. Edytha Dunbracco, Corinne H. Cassleman, Cornelia L. Price, Virginia D. Hilker, Helen L.



Birmingham, Emma D. Hall, Eva R. McClune, Ida E. Knowles, L. Eleanor Kelly. The medal for theoretical and practical nursing was awarded to Miss Harriet Jenks Fort.

Dr. Samuel J. Fort made some very interesting remarks about the great progress of the school and the success of its nurses which were highly appreciated.

His Eminence, J. Cardinal Gibbons, graced the occasion and praised the nurses on their selection of a life's work, wishing them every success and blessing.

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#### TRI-STATE CHAPTER MEETING IN HOBOKEN, N. J.

The Tri-State Chapter of the Alumni of the College of Physicians and Surgeons held the February quarterly meeting at the German Club, Hoboken, N. J., on February 27, '13. The program was as follows: "Interpretation of Chronic Abdominal Enlargements in Children," by H. B. Sheffield, M. D., of New York; "Naevi," by John H. Carman, M. D., of Plainfield, N. J. Dr. Sheffield discussed the etiology, diagnosis and prognosis of many of the rarer conditions leading to abdominal enlargements in children. Many photographs of typical cases were handed about to illustrate the types as they were discussed. His paper was discussed by Dr. Wm. J. A. O'Hara, Bridgeport, Ct.; Dr. John H. Carman, Plainfield, N. J.; and by Dr. T. Richard Paganelli, of Hoboken. Dr. Carman discussed the etiology, pathology and classification, and treatment of naevi, illustrating his paper with descriptions of cases seen in his dispensary work in New York. The paper was discussed by Drs. O'Hara and Sheffield. Dr. T. Richard Paganelli, of Hoboken, reported a case of congenital exophthalmos of unknown etiology. Dr. J. G. Callison, of New York, reported a case of tumor of the carotid gland. The annual election of officers resulted as follows: President, Dr. Wm. J. A. O'Hara, Bridgeport, Ct.; first vice-president, Dr. John H. Carman, Plainfield, N. J.; second vice-president, Dr. Hugh F. Cook, Newark, N. J.; recording secretary, Dr. T. Richard Paganelli, Hoboken, N. J.; corresponding secretary, Dr. J. G. Callison, New York; treasurer, Dr. H. B. Sheffield, New York; librarian, Dr. Joseph C. McDede, Jersey City, N. J. Executive Committee—Dr. W. E. Fitch, New York, chairman; Dr. Benjamin Finklestone, Bridgeport, and Dr. Frank W. Lockwood, East Orange, N. J. The next meeting will be held at Bridgeport.

## Marriages.

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DR. BERNARD ALLEN JENKIN was married to Miss Lillian Gladys Hessen at Baltimore, Saturday, May 10.

DR. CARNEY GRAHAM LASLEY was married to Miss Isabella Cobbs at St. John's Episcopal Church, Montgomery, Alabama, Wednesday, June 4.

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## Personal Notes.

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DR. JULIUS FRIEDENWALD has been elected a member of the Association of American Physicians.

DR. ALBERT S. HOTALING, Syracuse, N. Y., announced that after July 1, '13, his practice will be limited to obstetrics.

DR. SAMUEL T. DARLING has been invited to discuss the papers on tropical medicine at the International Congress of Medicine which meets in London in August.

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## Correspondence.

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TYRONE, PA., June 12, 1913.

DR. CHAS. E. BRACK, Baltimore, Md.

*Dear Doctor.*—Inclosed please find one dollar for my '13 subscription for the ALUMNI JOURNAL. While many other journals are larger and have a greater circulation, yet to the P. & S. boys there are none quite so welcome as our ALUMNI JOURNAL.

Would like to see a class reunion of the '05 boys.

I have just moved into my new brick home and have a fine practice here in Tyrone.

Wishing all my old teachers and school chums the greatest success, I am,

Sincerely yours,

S. L. STONEBRAKER, '05

RALEIGH, N. C., June 13, 1913.

DR. CHAS. E. BRACK, Baltimore, Md.

*My dear Dr. Brack.*—Enclosed find \$1.00 for dues to JOURNAL.

I enjoy "The JOURNAL" very much. It carries me back to the good old times at P. & S., when "*you all*" were working some of us "Down Homers" so hard.

With best wishes for you and all the faculty, etc., I am,

Yours truly,

T. O. COPPEDGE.

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GORMANIA, W. VA., July 3, 1913.

DR. CHAS. EMIL BRACK, Baltimore. Md.

*Dear Sir.*—I received word from South America last Friday that my brother, Elmer P. Shillingburg, is dead.

He died on May 5th with typhoid fever, only being sick a few days.

You can discontinue sending the MEDICAL JOURNAL to South America to him.

Very truly yours,

T. E. SHILLINGBURG, JR.

P. S.—This deplorable news follows closely the interesting and buoyant letter of Dr. Shillingburg published in this issue of the JOURNAL.

---

CHOCAYA, April 10, 1913.

DR. CHAS. E. BRACK, Baltimore, Md.

*Dear Doctor.*—Am sending you in advance five dollars for subscription to the ALUMNI JOURNAL, please send same to me in care of Compañia Minera de Oploca, Chocaya, Bolivia, S. A.

I have been in Bolivia almost three years and am getting along fine. I expect to stay here two years more, as I have got a good position with the above named company, which I am pleased to say pays me £60 per month. Besides this I may state that I have an arrangement with the Bolivia Railway Company, which pays me £20 per visit to camp.

You may not be aware that the altitude of these tin and silver mines is 14,000 feet above sea level, which is, of course, about the same height as Mount Blanc. Naturally being so near the Equator, the snow line is considerably more than 14,000 feet, and for this reason we do not have snow all the year round. In the winter months, however, which are June, July and August in these latitudes, snow occasionally falls a foot thick. Like all regions near the Equator, we have also rainy and dry seasons, the former extending from December to March inclusive, the rest of the year, with the exception of said winter months, being dry.

You will have surmised that, being so high here above the level of the sea, the atmosphere is very rarified. The local name in Bolivia for the mountain sickness, which nearly every one gets for a more or less time as a consequence, is Puna, being the Indian name, or Sorroche, which is the real Spanish equivalent.

The symptoms of this mountain sickness are more or less those that are experienced by persons ascending considerable heights in balloons or areoplanes. Some are afflicted with severe headache, with, however, a normal pulse and no temperature, while others have a rapid pulse, a shortness of breath, no headache and no temperature. A usual accompaniment of these latter symptoms is either constipation or diaorrhea. I may also mention that, owing to the difference of the atmospheric pressures between the low-lying country and these high altitudes, bleeding at the nose or ears frequently occurs, which may happen either when one ascends to these heights or descends to the sea coast.

Like all high regions vegetation is not very abundant here, the only growth worthy of the name being a variety of the Mexican cactus; there are also two kinds of vegetation which grow in the dry soil in considerable quantities called yareta and tola. The latter is very similar to the sage bush which is found in the southwestern states of America, and the former is an overgrown moss, which never rises higher than the ground. Both of these forms are used as combustibles in the country and, owing to the fact that there are no coal beds of any practical utility in these parts, it is the only burning material used by the natives. As a matter of fact, yareta and tola are even used very considerably by the various mines, for the reason that coal costs about ten times the price in the U. S. of A., in order to bring it to this country.



As far as the natives of the country are concerned, four-fifths are pure Indians, the other fifth being composed of people of Indian and Spanish descent. Some speak a distinct language, with a well-formed grammar, called "Quechua," and the others another, with no affinity with the other, called "Aymará." All the Indians are in a low state of civilization; are copper colored, and show no traces of having the artistic qualities which so characterized the ancient "Incas" of Peru at the time of the Spanish conquest.

I have merely written the above details of the country, etc., with the object of trying to explain to you what sort of a place I am in, and trust you will find same interesting.

With best regards, I remain,

Yours sincerely,

E. P. SHILLINGBURG.

**223 CASES OF**

# **HAY FEVER**

**TREATED WITH**

**MIXED INFECTION PHYLACOGEN.**

**178 SUCCESSFUL.**

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## HAY FEVER: "DISEASE OF MYSTERY."

Dr. S. Fuller Hogsett, of Pittsburgh, in his excellent paper, "An Experimental Therapy in Hay Fever," read at a meeting of the University of Pittsburgh Medical Society, and published in the April (1913) issue of *American Medicine*, New York, points to some interesting facts respecting this "disease of mystery," as he not inaptly refers to it. "As far back as the year 1565," says the doctor, "Botallus reported a case. Again, in 1673, Von Halmont, and in 1698 Floyer, of London, called attention to this condition. In Good's 'Study of Medicine' there is reference to a case related by Timaeus in 1667 of an attack of asthmatic nature caused by the odor of roses and ipecac."

Thus it will be seen that hay fever, instead of being a disease of modern origin, as many may have presumed, is in reality centuries old.

Discussing the problems of etiology and treatment, Dr. Hogsett continues: "Many theories have been elaborated, and many forms of treatment have been called to the attention of the medical profession. A strain of pessimism regarding the possibility of a cure in this condition appears in the writings of many authors. No one theory accounts for all features of the affection and the many etiological factors."

In 1912 Dr. Hogsett treated a number of cases successfully with mixed infection phylacogen. His observations as to methods and results are of interest and value. "In carrying out the phylacogen treatment," he says, "I have found that the initial dose should be small when given either subcutaneously or intravenously. It has been my procedure to begin with a 2 cc. dose subcutaneously or one-half cc. intravenously. . . . In giving the subcutaneous injection I usually select the insertion of the deltoid or the area just below the scapulæ. The latter seems to be the ideal spot, as absorption takes place very readily and the complaints from the local reaction are much less. I repeat my injection either daily or on alternate days, the interval to be determined by the clinical condition of the patient. It is seldom necessary to give more than four to six injections, the symptoms often disappearing after the second or third injection. Almost immediate relief is noted by the patient. The irritating discharges from the eyes and nose are diminished in amount, the sneezing is lessened, the dyspnea is relieved, and the patient usually sleeps comfortably. All cases that I have treated successfully have remained well through the season. I have yet to record only one failure, but I have not had a sufficient number of this class of cases as yet to warrant a positive claim that this remedy will act in all forms of the disease."

Clinical experience with mixed infection phylacogen in the treatment of hay fever is inconsiderable as yet. The product had its inception in 1912, when the season was well advanced, and the opportunities for its employment were necessarily limited. The next two months will undoubtedly tell the story of its applicability to this hitherto intractable disease, and the results of a more extended trial will be watched with a deal of interest.





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No. 3

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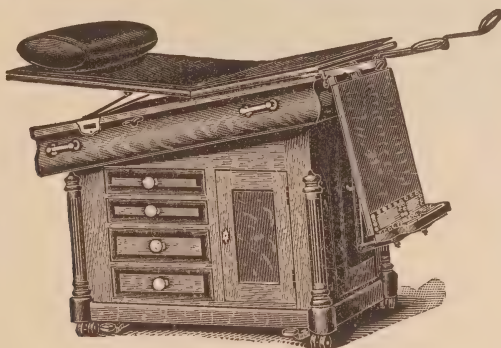
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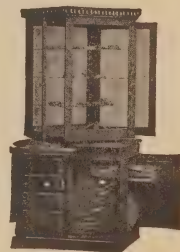
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---

THE OPEN TREATMENT OF FRACTURE OF THE FEMUR.\*

By ALEXIUS McGLANNAN, M. D., BALTIMORE.

In a recent discussion of the open treatment of fracture of the shaft of the femur, the strength of the plate and the holding power of the screws occupied the greater part of the reports. This prominence was shared with studies of the endurance and the resistance of various instruments under strain. Apparently, study of the mechanical side of the subject had distracted these observers from the important fact that the union of a broken bone is a vital process, and is governed by the same laws that control wound healing everywhere.

Accurate fixation of the fragments is of great importance for the union of a fracture, and the degree of functional recovery is directly proportional to the accuracy of this approximation, but fixation is not the only factor in securing success. There are specimens in every museum, and similar illustrations are found in all works on surgery, examples of the firm healing of bone in the absence of accurate fixation of the fragments.

The healing of a wounded bone will be delayed or prevented by undue tension, by imperfect circulation, and by all the other factors that prevent or delay wound healing in general.

Therefore it seems to me that success in the open treatment of fracture of the femur does not follow greater strength of the plate and its fixation, but depends rather on carefully following the general rules for the treatment of fractures, especially with regard to position of the limb and

\* Reprinted from Surgery, Gynecology and Obstetrics, April, 1913, pages 429-432.

the application of dressings. The plate is intended to act as an internal splint, one whose application directly on the bone makes perfect apposition possible, but whose action is required only for the length of time necessary for the formation of firm callus. Tension strong enough to break or twist the Hanselman silver plate or great enough to loosen properly inserted screws is too great for primary wound healing, and will interfere with bony union even if the fragments are kept in apposition by some firmer fixation. The original Lane plate, without any reinforcement, is strong enough to hold any fracture if the limb is put in the proper position.

In our recent cases the operation was performed in the manner to be described. The patient is prepared for operation by a period of preliminary treatment varying from one to ten days, during which time the broken leg is either suspended or is bandaged to a long side splint. All handicaps to operation, *i. e.*, heart, lung, kidney, or digestive diseases, are studied, and as far as possible compensated or removed by appropriate treatment.

Occasionally some complication is found that prohibits any operation, or a condition such as malignant tumor, which indicates amputation rather than an attempt at the cure of the fracture. Syphilis, anæmia, hypothyroidism, and other constitutional disturbances known to interfere with bony union must be searched for, and if found they are contraindications to immediate operation. Individuals suffering from these disorders are always poor surgical risks, and operation for fracture in these patients is sure to end in disaster unless the constitutional disease has been brought under the influence of appropriate treatment. The immediate preparation of the field of operation is by the usual soap and water, ether, alcohol and bichloride method. In a few cases we used a preliminary painting with iodine, followed by shaving with alcohol soap solution and continuing with the ordinary method, but found no advantage in this additional preparation.

*Anæsthesia.*—Drop ether and nitrous oxide-oxygen have both been used. The latter has proved very satisfactory, especially when combined with a few drops of ether at the time traction is made.

*The incision* is a long one, made over the site of the fracture in the situation that affords best protection to the large vessels and nerves. The

tourniquet is not used, and bleeding vessels are clamped and tied at once. As soon as the skin is divided, towels are fixed to its edges, covering everything except the tissues in the wound. Muscles are separated or divided as required, especial attention being paid to hæmostasis and the gentle handling of tissues. In this way the fracture is exposed, and, depending on various circumstances, different conditions are found to exist. When operation is done early there may be fluid blood or a recent hæmatoma, which becomes more and more organized as the time of operation is postponed. On removing the hæmatoma by means of wet salt sponges, a cavity is exposed showing the fractured bone, the periosteum being usually stripped for a greater or less distance from each fragment. This membrane may be torn into many shreds, which fall or curl in all directions. Muscle or fascia may be interposed between the fragments. The complete removal of this soft tissue is essential to success. Frequently the interposed muscle will be a piece torn from the body of the muscle or one of its attachments. The problem in such a case lies in deciding between excision of this portion or its restoration by suture. The latter procedure is the better one, but in many cases should be deferred until the fixation of the bone has been concluded. The reduction of the fracture is the next step, one in which traction plays an important part.

*The Traction.*—After investigating and trying several methods for applying traction in the treatment of fractures, we have adopted one based on the principle of direct extension, described by Codivilla. When operating on a fractured femur the traction is made directly on the lower fragment by means of a rope of sterile gauze wound around the ends of a long drill which transfixes the femur just above the condyles. Using this method we are able to pull down the lower fragment with very little force and avoid all danger of compression injury to the vessels or nerves of the popliteal space, and of relaxation of the knee joint. At the same time we make our traction in any line desired and with the leg in any position. For example, with fracture of the lower third, the traction is made with the knee flexed, and with so little exertion that the assistant making it also rotates the leg when this becomes necessary for the reduction of the fragments.

Traction by any means causes shock. One of the advantages of the



direct method is that it acts rapidly, and the end is accomplished by employing the smallest amount of force; therefore the resulting degree of shock is less than when other forms of traction are used.

The weight of the body furnishes sufficient counter traction in recent fractures. When dealing with an old fracture we fix the limb by means of a rope of gauze passed over the groin and under the thigh, and tied to one leg of the operating table.

*The Reduction.*—While the traction and manipulation are carried on, the upper fragment may be held in a lion-jaw forceps, and further manipulation made with this, or by means of the Lane femur elevator, or an ordinary periosteal elevator. Sometimes all of these instruments are used at once, with the aid of a competent assistant. If possible the fragments are now held in a Lowman or some similar bone clamp, or else the lion-jaw and other instruments are still kept in place until the plate is fixed.

In all these maneuvers especial care must be given to the preservation of the periosteum. This membrane is the source of the greater part of the new bone that makes perfect healing of the fracture. It should neither be stripped from the fragments nor violently torn or crushed by the clamps and other instruments.

*The Plate and Its Fixation.*—The length of the plate must vary with the character and position of the fracture. We aim to use a plate long enough to have the screws inserted at least 2 cm. from the edge of the fracture. As a rule, one screw in each fragment is sufficient, but when the fragments show a tendency to rotate, two screws should be put in one fragment if not in both. The length of the screws will vary with the object of their insertion. When the cortex of the bone is of normal density and thickness, it is best to use a short screw, one that penetrates the entire thickness of the cortex after passing through the plate. When the cortex is thin or less compact than normal, a screw longer than the diameter of the medullary cavity should be used in order to obtain greater strength of fixation by penetrating the cortex on the opposite side.

The relative advantage of the silver or steel plate is open to discussion. The rigidity of the steel plate is of great value in preventing bending or twisting movements of the fragments during the application of the external fixation dressing. Long experience has made surgeons look with

favor on silver as the best metal to be buried in the tissues. The anti-septic action of this metal in colloidal solution more than balances the advantage of iron, that is, a metal whose salts are normal constituents of the body.

Our own results have been equally good with both forms of plates, although we have had more experience with silver. The great advantage of steel over silver plates seems to lie in the fact that in the former a smaller weight and volume of metal is necessary to obtain the same degree of fixation.

*Closure of the Wound.*—All hemorrhage from the soft parts must be controlled before the wound is closed. Some oozing from the bone will persist, but if the wound is otherwise dry the tissues will take care of this. Torn periosteum is first replaced and sutured to similar flaps or under suitable muscles surfaces. Muscles are coapted and the fascia carefully sutured. Catgut is the best material for these deep sutures. The ends of these catgut sutures are left long and brought out through the skin in order to afford drainage for any oozing in the wound. The skin is closed with a subcutaneous silver wire.

*The Dressing.*—The wound is dressed with aseptic gauze, and the limb padded with sterile material. Over this an ordinary bandage is quickly applied, in the turns of which a number of thin strips of splint wood are incorporated, for the purpose of equalizing pressure and aiding the circulation. Then a plaster of Paris cast is put on, running from the toes to the nipple line. This cast is moulded well around the knee and over the pelvis and hip. A suspension apparatus or support, or a special table like that of Dr. Downey \* will be found useful in applying the cast.

The position of the limb in this dressing depends on the site of the fracture. "The limb is placed in that position which inclines the fractured portions nearest a normal line, and most effectually relaxes the muscles of the limb." † When the fracture is in the upper third of the bone, the thigh and leg are partially flexed and the thigh slightly abducted. With a fracture of the middle third, the limb is put up straight. When the bone is broken in the lower third the knee is half flexed and the hip is flexed enough to bring the heel and the sacrum on the same horizontal plane when the patient lies on his back.

\* J.-Rec. of Med., Feb., 1908.

† Jarvis, The Lancet, vol. iii, 1846, p. 215.

*After Care.*—The dressing is not disturbed for three weeks, unless the wound demands attention before this time. In the latter event, a window is cut in the plaster and the wound inspected and dressed through this opening. After three weeks the cast is gradually cut away from above and below until at the sixth week there remains only a cast extending from the pelvis to the knee. After eight weeks the knee is freed, and all fixation is removed at end of ten weeks. During last four weeks the patient may be about on crutches.

We give five grains of thyroid extract once a day from the third to the sixth week, and give iron and calcium the succeeding four weeks. As soon as any portion of the cast is cut away, the exposed parts are massaged daily and any free joints given passive motion. With children or thin adults it is better to remove the entire cast after the third week and apply a new one, after giving the limb passive motion and massage. This dressing and manipulation is repeated every two weeks until the tenth week.

*Results.*—Our results have been uniformly successful as to permanent cure and function. In one case a large hæmatoma developed in the wound and required evacuation, delaying the healing of the soft part wound. We have had no infections nor any case of non-union.

*Tolerance of the Tissues for the Plates.*—We have not removed the plate in any of our cases. This has been the result with most operators in cases of fracture of the femur. With the more superficial bones, as the tibia or ulna, etc., the plates are more likely to require removal. In a series of 26 plated fractures of 29 bones we have been compelled to remove the plates in two cases—one from the tibia and the other from the olecranon. Tolerance for the plate varies directly with the depth of its position in the tissues: the further from the skin it is placed, the greater the ease with which the tissues accommodate themselves to its presence.

NOTE.—Since writing this report, we have removed a Lane plate from the thigh on account of sinuses, three months after the original operation.

THE IMPORTANCE OF THOROUGH QUALIFICATION ALONG  
THE LINE OF LITERARY AND GENERAL SCIENTIFIC  
TRAINING PRIOR TO ENTERING THE MEDICAL PRO-  
FESSION, AND THE MAINTENANCE OF HIGH IDEALS  
AFTER BECOMING A MEMBER OF THE SAME.\*

BY C. M. VAN POOLE, M. D., SALISBURY, N. C.

*Fellow Members:* Difficult, indeed, is the task when I attempt to find words fittingly appreciative of the distinguished honor you have conferred upon me by making me president of your honorable body. In accepting the honor thus bestowed I am doubly mindful of the fact that with the honor goes also a tremendous responsibility and an immense amount of labor. To view the former without the latter would arouse feelings of gratitude which a tongue inspired with human thought alone could have no power to express.

We are assembled in the fifty-eighth annual meeting of this society—an age that should command the highest respect for its years, and that should carry with it that maturity of thought and action which should impress every one with its character and dignity. The honors, responsibilities and privileges of this body, as well as its dignity and progressiveness, should multiply with its added years and should be shared in by the whole profession of the state.

TRIBUTE TO DR. GRAHAM.

To-day we are the honored guests of a people unexcelled for their patriotism and culture, whose open-handed hospitality is equalled only by the hearty appreciation of its guests. Our pleasure at this meeting, however, is saddened by the absence of the smile of welcome and warm grasp of the hand of our former fellow member and leader, the late Dr. Joseph Graham. How we shall miss him at this meeting! He was a big-hearted man, a man of even temperament, loyal to duty, true to his friends, and of a forgiving spirit to those who chose to differ with him. His place in the work of this society will be hard to fill. All honor to his name, and peace to his ashes.

Meeting, as we are, in this highly favored center, with its genial climate,

\* Read before the Charlotte meeting of the North Carolina Medical Society.



hospitable homes and courtly people, I feel assured all come with one common purpose, namely, the advancement of science, the upholding of the honor and dignity of our noble art, and the promotion of the good of our fellow man.

For thirty-one consecutive meetings I have listened to my distinguished predecessors as they, in turn, have delivered their respective addresses on various subjects. The ground has been pretty well covered, and yet, as I survey the field of past and present, and compare the needs of by-gone days with the actual necessities of the present and near future, one subject seems to stand out high above all others, namely, that of thorough qualification along the line of literary and general scientific training prior to entering the medical profession, and the maintenance of high ideals after becoming a member of the same. This is a subject of vast interest to the medical profession and equally so to the people as a whole. As to the laws governing this matter we have some, they might and should be better, but be this as it may, we must strive to maintain that high standard in the profession to which we are entitled, and at the same time protect the people against incompetent and unworthy practitioners. It only remains for the loyal, prudent and conservative members of the profession, aided by an enlightened, intelligent and humane citizenship, unbiased by extraneous or fortuitous circumstances, to see to it that the laws we have are enforced in the fullness of the letter and spirit, ever holding the scales of justice evenly poised that its good name be in no wise stigmatized, and we confidently predict that the time is not far distant when this will be done, and the high standard of medical education in North Carolina will be the pride and boast of an enlightened and appreciative citizenship.

#### AIM OF MEDICAL RESEARCH.

The ultimate aim of all medical research is the prevention and treatment of disease. Medical science deals with objects of a high order, and gives laws to an art that concerns one common humanity. It seeks to solve the mysteries of the phenomena of life, and to this end investigates the remarkable chemistry of the human organism, pries into the cunning woof of animal textures, and tries to gain an insight into the variety and complexity of vital apparatus and their normal operations.

From the information thus acquired, medical science extends its researches into the changes of anatomical structures, the character and order of deranged functions, and the significance of symptoms, which express morbid conditions. To become acquainted with the results of such manifold and complicated investigations, and to learn how to utilize them in an enlightened and conscientious manner, for the relief of suffering and the restoration of health, requires a great deal of patience, aptitude and time. In order that we may become proficient the mind must dip down deep into the sciences of the world. They do not come to us spontaneously nor without effort on our part, for it is well known that any department of human knowledge consists of a body of facts, doctrines and propositions, which are obtained by that course of reasoning which proceeds from the known to the unknown, from the evident to the obscure, and from the simple to the complex. The powers of the mind, which are called into requisition to this end, do not differ from those which are employed in the ordinary transactions of life; but the difficulty of obtaining accurate observations increases in proportion to their variety and complexity. To disentangle the involved web of occurrences, to specialize with exactness the conditions that determine and regulate them, baffle the common ways of investigation, and require improved methods.

#### LITERARY EDUCATION.

How important, then, it is that, before entering upon the study of medicine there should be a competent literary education, for the scientific mind encounters an infinitum of problems of which the uncultivated has no conception. To ascertain principles that underlie apparently disconnected facts calls for patient and laborious research; constancy and perseverance in tentative efforts, a mind fruitful of suggestions, and a natural disposition to find pleasure in the pursuit of knowledge for its own sake. How inadequately the unscientific man is furnished to arrive at rational explanations of phenomena beyond the limited sphere of his experience, or which occasionally excite his wonder and curiosity is amply demonstrated by the prevalence of popular errors and the crude and fanciful notions in relation to natural events. Coincidences are mistaken for uniformities, occult causes are conjured up to shed light upon strange occurrences, a plausible guess stands for proof, and one happy hit over-

balances a hundred failures. But how different this whole matter appears to the educated man! He has a nucleus around which his future experiences and researches may accumulate, but, in order to profit by his experience, he must employ the same methods that led to the acquisition of the knowledge he has previously appropriated to himself; and this is the more necessary as he will constantly be thrown upon his own resources in his future life. He will then fully appreciate the value of science which confers the power of applying to one object the knowledge acquired from another. Having already mastered a large number of facts, their remote connections and interdependence, he is prepared to apply the principle of inductive reasoning wherever it is possible. In proportion as he has habituated himself to reflect on the agreement or identity of facts that come under his observation, and in proportion to the acuteness he has acquired to discover resemblances and to suggest explanations, in the same proportion obscurities will clear up, and enable him to work out a rational course of therapeutics.

Having thus prepared himself to absorb and assimilate scientific problems, the young man should be very careful in the selection of the medical school from which he expects to graduate. In justice to the student, therefore, it is but fair to say that no medical college offering the degree of doctor of medicine should be satisfied without the very best equipment and a superior teaching force. The day has passed when superficial teaching and a mere smattering of medical knowledge was sufficient. The licentiate should not only have a competency of theory and book knowledge, but his laboratory and hospital training should be such as to make him, at least, the peer of his brother practitioner with whom he is to compete. He should also possess a competent knowledge of human nature, for it is evident that the relation of the physician to the public is rapidly changing and that the former must prepare himself for the continually increasing responsibilities which are certain to be placed upon his shoulders. He will be expected, shortly, to be as proficient in the art of prevention as in that of healing. He will be called upon to be the medical advisor, not only of individuals, but of communities and governments. There will be a demand for him to fill great positions of trust. As an investigator and teacher he will mold and reform public opinion. It is, indeed, a great career that is opening up for the medical man, but one

that will demand sacrifice and service both personal and public. But as the profession is ennobled and greater demands are made upon it by the public, so will men of greater and greater caliber be induced to enter its ranks. In fact, the medical profession deserves to stand in the very front rank of citizenship, and, with the modern methods of teaching, the common desire and concerted effort to raise the standard of medical education, great things may be expected. It is a well known fact that during the last two decades the United States has been the scene of such intense revolutions in the domain of medical education as has never before been seen in the history of medical science in this or any other country. The accomplishment of modified plans for medical study, the co-operation of medical colleges and universities, the raising of the standard of primary education, the management of financial and administrative questions, the relations of educational institutes to hospitals, etc., have created exceedingly important problems. At the present time we are experiencing an evolution in medical education, in which not only students and physicians are interested, but also the administrators of communities—in fact the people of the entire country. It is the opinion of some that the training of capable and reliable physicians should not be relegated to individual institutes, but treated as a subject of national concern. In the United States the interest has, in the main, been focussed upon undergraduate education, while in the old world the conditions are totally different. Medical education and training there has always been regarded as the responsible task of universities and governments, and in the course of its systematic development has attained to its present commanding height. There is no doubt that on the other side of the Atlantic constant interest has been evinced in favor of improving medical undergraduate education, but in the absence of urgent problems in this direction the interest of the medical world has, in recent times, veered towards postgraduate education. However, if the teaching and training of the colleges and universities of America is thorough, and if the requirements of examining boards are such as to force applicants to possess a competent knowledge before they are allowed to enter upon its practice, then there is no good reason why the standard of medicine in the United States should not equal that of any other country.



## QUALIFICATION.

There should be a single portal to the practice of medicine—thorough qualification. Individuals who are to treat human ailments are alike in many respects. In the first place they must make diagnosis in order to recognize what they are endeavoring to treat, and, secondly, what they may fail to do in certain cases, even as much possibly as the things they do, may mean the life or the death of the patient. For these reasons everyone who is to treat human ills, regardless of the particular methods employed, should be required to have a thorough training in the fundamental branches of medicine.

The objection to medical sects, therefore, is not so much because they are sects as it is that their followers enter the medical profession with a smaller amount of preliminary and medical training than do regular physicians.

If the standard is to be high, let the requirement apply to all alike.

## PAST AND PRESENT.

And now, fellow-members, a word as to the work of the past year and the actual needs of the present.

Among the many scientific investigations of to-day nothing seems to surpass that of hookworm disease. It is a well-recognized fact that throughout this nation that the greatest campaign that has ever been inaugurated against the hookworm in any country is now being carried on in North Carolina under the efficient leadership of our Dr. John A. Ferrell. We congratulate him upon his unprecedented success and at the same time wish to commend the physicians of the state who have so nobly assisted him. If the present rate of prevention and eradication is continued many precious lives will be saved to the state.

## STATISTICS.

The anti-tuberculosis work in the state is commendable and has already done a great deal of good, but this line of scientific investigation has, to a great extent, been handicapped on account of the lack of interest and co-operation of the vast majority of the members of the profession. The laity, however, as is the case in the hookworm campaign, is being educated and brought to a knowledge of the fact that as much or more can be done

along the line of preventive measures as that of cure. In most cases, when this matter is brought forcibly to bear upon them, there is hearty co-operation. This should be an incentive to the profession to do greater work in this respect. The medical profession in North Carolina is not inferior to that of any other state, but the progressive spirit of prevention has not yet thoroughly been grasped and utilized by a large per cent of the profession. A brief reference to statistics bearing upon this matter might serve to stimulate the members of this body to greater action.

#### TUBERCULOSIS WORK.

We gather from the reports of the National Association for the Study and Prevention of Tuberculosis that over 600 cities and towns in the United States are engaged in the war against consumption, and that there are over 1500 agencies at work in this crusade. This shows an increase of about 700 per cent in the last seven years. There are 421 tuberculosis sanatoria, hospitals and camps; 511 associations and committees for the prevention of tuberculosis; 342 special dispensaries; 68 open air schools; 98 hospitals for the insane have made special provision for their tuberculosis inmates. Practically all of this within the last seven years.

With such rapid recruiting of the fighting force, who can lose heart as to the outcome of the great battle?

#### SANITATION.

The State Board of Health is revolutionizing sanitary matters in North Carolina. While we did not get all that we asked for, yet we are bound to acknowledge that the work of the state legislature along this line was commendable. With the appropriation more than doubled, with better sanitary regulations for the counties and with more power vested in those entrusted with this work, public health and sanitary conditions in general will certainly be improved.

We are living in a progressive age, and the time has come when this society should provide a suitable badge or button of recognition for its members. I therefore recommend that the society provide a suitable pin, badge or button. It need not and should not be large nor very expensive, but something neat that could be worn the year round. On it should be placed a monogram or initials, such as might be agreed upon by a proper committee.

## CARE OF AGED.

It would be well also for the society to take the initiative looking to the care and maintenance of the aged, deserving indigent members of the profession of the state. This would only be demonstrating to the world the well-known fact that medical men do more charitable work than any other profession in existence.

## APATHY.

The organized work of the profession in North Carolina during the past year has, in some localities, been highly commendable, while in others the opposite is true. Your president has tried, in vain, largely, to create enthusiasm and to revive a progressive spirit, but it seems, in many of the districts, that "Ephriam is joined to his idols and we might as well let him alone." In some counties from which the State Society a few years ago drew its very best membership there is not even the semblance of an active organization. To-day this society numbers about 25 per cent less members than it did a few years ago. Why this apathy? What is the cause? Where shall the blame rest? This lethargy and inactivity has grown to such magnitude that it is high time the society should take cognizance of it. But in considering this matter there might be several causes worthy of consideration. We should bear in mind the fact that a few years ago, when the new plan of organization was adopted, there was, with a majority of the members, over-enthusiasm and everything ran top-heavy, and that to-day the membership is, perhaps, only settling back to a normal, healthy working condition.

Another cause might be assigned, namely, it has been apparent for several years that there is a spirit of unrest permeating the society. Whether there was or is just cause for such unrest is not mine to discuss at this time. However, the conditions are before us and must be met. Just what is the best thing to be done is for you, as a society, to say. The recommendations of my predecessor are in the hands of a competent committee, and I believe that whatever they may recommend will be intended for the very best interests of the medical profession of the state as a whole. One thing is apparent: if the society is to live and thrive there must be some provision whereby reputable physicians, residents in counties where there is no active local organization, may become members of the State

Society. This may be provided for by the special committee, but if not, I recommend that some action be taken looking to this end.

I would urge that, when the report of this committee is finally disposed of, it be done with an eye single to the best interests of the society and the profession in general, void of feeling or friction, and trust that whatever may be done may prove the redemption of the grand old Medical Society of the State of North Carolina.

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## MILK; ITS RELATION TO DISEASE, ESPECIALLY INFANT MORTALITY.\*

BY DR. T. HOWARD WERTZ, HANOVER, PA.

The production, care and food value of milk, its significance as causes and carriers of disease, and its special reference to infant mortality have been subjects of more than ordinary import through the country for the past twenty years.

This question of pure milk is receiving the attention of almost everyone. Not only are physicians, health officers and milk experts interested in the welfare for pure milk, but many institutions, various societies and many noted men of philanthropy have recognized the importance of the great problem as it concerns the wealth and health of a nation, and within a very brief period of years have established suitable places throughout most of the cities, and not only furnish a pure milk free, or at a nominal cost, but in connection have efficient trained officials managing same, who conduct an educational campaign as well.

The question of sanitary milk is to the American people especially pertinent. Milk is perhaps used to a greater extent in this than in any other country. It holds a particular place in the nation's dietary because of its varied applicability, containing as it does all the essentials of a perfect food, proteid, carbohydrate, fats, inorganic salts and water; it is capable of almost universal use. Because of this, and in addition its facility of ingestion and comparative ease of digestion, it constitutes an important food for the sick and convalescent.

\* Read before the York County, Pa., Medical Society, August, 1912.



Even of greater importance is the use of cow's milk as a substitute for mother's milk in infant feeding. It will be perceived that those most dependent upon this food, the sick and convalescent, infants and children, constitute that part of the community suffering the greatest injury from the use of a food impaired in its nutritive content. This is due to the fact that they are least able to resist the harmful effects of food contaminated by toxins or pathogenic micro-organisms.

While improved conditions of living have contributed to a steady decrease of the general mortality in civilized countries, this unfortunately does not apply to the infant population under one year of age. It is recognized that gastro-intestinal disease is the largest single factor determining infant mortality, a condition in great measure due to improper methods of feeding.

This enormous loss of life is of grave concern to the state and worthy of most careful consideration. It is especially for these reasons that the question of sanitary milk and its relation to the public health challenges our best endeavors.

In nature's method for the nourishment of the young, milk was never intended to see the light of day, and if sucked from the normal healthy breast is a perfect food for the offspring. In this natural method of providing nourishment there is little possibility of contamination from outside sources. But as soon as the artificial method of drawing milk is resorted to, there enters into consideration a whole set of conditions entirely new and different. The milk then comes in contact with air, the vessel in which it is drawn, and with particles of dirt from many sources. Various bacteria find their way into the milk, and as a consequence contamination of the milk supply.

The best substitute for mother's milk is popularly recognized as the unadulterated product of the cow, free from disease and dirt, and should be so handled in its production and on its way to the consumer as to arrive in practically as good condition as when shipped.

Milk experts have come to consider milk from its physical, chemical, bacteriological, and economic sides, and demand not only a milk which is pure, in so far as bacteria and other contaminations are concerned, but fit chemically and physically for the various purposes for which it may be used. They recognize further its economic value, not only as a substi-

tute for breast milk but as its increased value as a wealth producer. Its use as a food in every household makes it a staple product. It is, therefore, not only a great benefit to the users of milk, but the producers find it a source of great revenue; it has helped to make farming more profitable than heretofore.

Those interested in the study of milk and the prevention of needless infant mortality are deeply impressed by the great efficiency of good milk as a conservator of life, and by the immense mortality in those places where good, pure milk cannot be obtained by those who need it most. Just how milk should be fed to the child has been a matter of various opinions. Most pediatricians, however, preferably prescribe pure raw milk, certified by some reputable milk commission. Many modes of modification and many artificial products, intended to replace cow's milk, have been used, each with more or less success. The majority of pediatricists regard them more as a medicine than as a food, and should only as such be used; so that whenever pure cow's milk, properly modified, can be had, the same should be used.

When cow's milk first became an important adjunct in infant feeding and food supply, certain methods became necessary to keep the same in as good condition as possible until used. Then various preservatives, such as formaldehyde and salicylic acid, seemed to meet the requirements best. This continued until the consumer decided that he preferred to drink each one separately. Boiling milk was much practised to keep it sweet. These methods of preserving milk were followed by many disturbances of digestion and diseases of nutrition; the life of the milk had been destroyed.

Later the bacteriologist discovered that by heating the milk at a certain temperature would destroy practically all the pathogenic bacteria, and thus the structural constituents of the milk were not interfered with, and at the same time preserve the milk and make poor milk good so far as bacteria were concerned. Pasteurization then, as well as now, has many adherents, and it may be accepted for the present as being the best possible method of taking care of the larger part of the milk consumed. It should be understood, however, that pasteurization is not recommended as a cure for all the ills of the milk business, for no amount of pasteurization will make bad milk good.

Coincident with the improvement of the milk supply come recognition of the fact that many diseases of nutrition were avoided, and with this important discovery came renewed efforts to better the milk supply. The results of these efforts can best be appreciated by the increase and importance of the medical milk commissions throughout the United States.

But the real beginning of the pure milk crusade began in 1894, when the Washington Medical Society appointed a committee of three, headed by Dr. L. W. Macgruder, of Georgetown University, to investigate the causes of typhoid and other epidemics in the District of Columbia. After many investigations were made into the water and milk supply and the causes and carriers of the different epidemics established, various recommendations were made by this committee.

Chiefly among them was that requiring the inspection of all dairy farms and a permit from the health officer before milk could be sold in the District of Columbia. March 2, 1895, by an Act of Congress, the complete recommendations of the committee were approved. Dr. Kober's investigation in 1895 confirmed every point made by the committee. This made Washington the first city in the country to demand inspection of all dairy farms and the establishment of milk depots in the city.

These investigations developed two new facts, namely: the percentage of imported cases of typhoid and other diseases through the milk and water supply and the agency of flies in the transmission of disease. This committee, composed of Drs. Macgruder, Johnson and Hammett, recommended a score card system of inspection of milk and water. This system has grown so popular that nearly every city in the United States has adopted it.

The health of the cow is particularly essential in the production of pure milk. They should be free from disease and in good physical condition; the stable should be clean, well lighted and ventilated. The tubercular test should be applied about once a year by a competent veterinarian, and all reacting animals removed. This would not only protect the milk, but would safeguard against the rest of the herd. The cleanliness of the cow is another very important factor; the dust and dirt which hangs to the cow is largely responsible for the contamination of milk.

Estimates in 1910 had been made as to how much dirt or manure was consumed by citizens of different cities in a day. New York, for instance,



is said to have consumed about two tons of manure daily; Berlin about three hundred pounds daily. Philadelphia had 4053 milk dealers in the year 1911, and if each dealer sold one-half pound of dirt they would drink over a ton a day.

There is approximately two billion gallons of milk sold in the United States annually, about twenty-five gallons to each person, and at the estimated rate of dirt in most milk, there would be consumed about forty tons of manure every day. This may be overestimated but the fact remains that there is too much dirt in most milk. Prerequisite therefore to the production of pure milk is scrupulous cleanliness from beginning to end and next thereto a healthy cow.

Each year the handling of milk in each city becomes a problem of its own. In small towns where milk is had from nearby dairies and the time of production and delivery is very short, the same rules adopted in the larger cities are not necessary and a source of needless expense. The larger the city, and the greater the milk shed from which milk is shipped, causes increased delay in handling much milk, and for this increased delay a more rigid system must be adopted in the handling of the same.

Dr. A. D. Melvin, Chief of the Bureau of Animal Industry, would divide milk in three classes, namely: certified, inspected, and pasteurized. The first is produced under the most rigid sanitary inspected system and is the best for the babies. It has a low bacterial count. The second, or inspected milk, is that produced under best hygienic conditions from tuberculin tested herds, and is recommended for adult or table use. While the balance, which has mostly a high bacterial count and apt to be contaminated and should be pasteurized, is recommended principally for manufacturing purposes.

Lederle, of New York, under whose supervision the City of New York has established the best system of handling milk in the world divides milk into three grades, very similar to that of Dr. Melvin, with the exception that grade C need not be pasteurized and is restricted to manufacturing only under special permit from the Board of Health, while grade A, or inspected milk, is to be sold in bottles only, and is intended for infants and children. Bacterial count must not be over 50,000 per c. c. when sold. Grade B is regarded as suitable for adults and as a beverage. All milk included in grade A will fill all the requirements of grade B. In addition



the second grade will include raw selected milk, conforming to the regulations of inspected milk in grade A, but substituting the physical examination of herds for the tubercular test. Grade B will also include milk pasteurized under the regulations of the department.

It would be unnecessary waste of effort to attempt to raise the entire city's supply to the standard of milk for infant feeding, yet the tendency has been hitherto to work on this basis. Each city has its own milk problem to solve, and I should say that no milk is too good for anyone. In New York all milk is supervised by the Board of Health through milk stations under milk inspectors. Philadelphia has recently passed a bill compelling all milk sold in the city to be bottled. The trend of the modern milk question has been to establish milk commissions and milk depots.

Perhaps one of the most significant accounts of the good which milk stations have accomplished is that published by the committee on the reduction of infant mortality, a part of the New York Milk Commission. It states that out of 125,000 babies born in New York annually, 16,000 die under one year of age, and of this number more than 50 per cent waste away from want of proper food and care. It has been proved that these babies need not die if their mothers can be taught how properly to feed and care for them if pure and properly prepared milk can be supplied at prices which they can afford to pay, and if mothers who have been, through poverty or overwork, ill prepared to nurse their babies can be so nourished and rested as to be able to give the natural food to their children. In the summer of 1910, out of 100 children, rich and poor, born in New York, 17 died. In the infants milk depot, maintained by the New York Milk Commission, only 20 babies died out of 350, and only one died from improper feeding.

One of the most important relations of milk supply to public health is the quantity as well as the quality of the supply itself. All milk commissions have great difficulty in inducing producers to supply milk of proper quality, because the quantity called for does not make it profitable business. To produce milk of a proper quality is an expensive undertaking, and until the general public is educated to the point of being willing to pay a fair price for a first-class milk, just so long will dairy men be loath to expend the time, energy and money necessary to supply in quality and quantity such a milk as might be used everywhere to the great advantage of those who need it.

The production of pure milk, free from all contamination, therefore, resolves itself in one of education of consumer, producer and dealer. Farmers never studied bacteriology and many doubt the existence of such a thing as a germ. Some never head of such a creature. I believe the best place to educate is in the public schools where a course in sanitation should be a compulsory part of the curriculum. Sanitary education is better than sanitary legislation.

Many diseases are directly traceable from diseases of the cow, and many others to contamination. Tuberculosis is possibly the most frequent. Theobald Smith isolated bovine tubercle bacilli in 12 out of 28 cases of tubercular cervical lymph glands. He estimates that from 25 to 50 per cent of the cases of human tuberculosis starting in the cervical and mesenteric lymph glands are of bovine origin. Dr. Ruhräh, of Baltimore, says that the transmissibility of bovine tuberculosis to man is much overestimated. Prof. Koch also is of the same opinion. The results of recent tubercular tests of milk supplied in the District of Columbia shows that between 15 and 25 per cent of all cows are tuberculous. The supervisions of the Bureau of Animal Industry showed that in 2471 tests of cattle from herds supplying milk in the District of Columbia, 377 were found tuberculous, or 15.23 per cent. This percentage is a fair average of the prevalence elsewhere.

Other diseases of the udder, some of a streptococcus origin, causing diseases resembling scarlet fever are transmissible. Typhoid fever is perhaps the most frequent disease transmitted by the milk supply. Kober, in 1901, reported a series of 330 outbreaks of infectious diseases that were spread through the milk supply. These outbreaks consisted of 195 epidemics of typhoid fever, 99 of scarlet fever, and 35 of diphtheria. In 148 of the 195 epidemics of typhoid fever there was evidence of the disease at the farm.

There are many more epidemics in America than in Europe, the reason of which is that on the continent milk is rarely used without being boiled.

In the fall of 1908 over 50 cases of typhoid fever in Washington, D. C., were traced to the supply of milk from a single farm. An example of an epidemic of scarlet fever in Rochester, N. Y., which occurred in March, 1905, the cases of scarlet fever occurred in 25 families widely scattered, and people having no social intercourse, the only thing common was that

most of the 25 families received milk produced on a farm where a woman convalescent from scarlet fever had returned to milking the latter part of February; in addition, her children just had scarlet fever.

In Baltimore recently there occurred 23 cases of typhoid fever among the employees in a factory; the factory served dairy lunch. The milk was traced to a farm whose water was found polluted. Various epidemics throughout the country of typhoid fever, diphtheria, and scarlet fever might be cited; nearly all can be directly traceable to the contamination or pollution of the milk or water supply.

Last winter an epidemic of a new malignant sore throat made its appearance in different sections of the country. Dr. Melsheimer had several severe cases. But in Baltimore it was severest. It found victims in the families of Dr. H. C. Jones, Assistant Health Officer of Baltimore City, and that of Dr. Macgruder. Drs. Standish McCleary and Wm. R. Stokes, of the College of Physicians and Surgeons, isolated the organism and fully described the same with pathological lesions. It was spread through the milk supply. Dr. Hirshberg has isolated some 15 or 20 varieties of streptococcus infecting the throat, each producing serious systematic effects. Their relation to the milk and water supply was amply demonstrated.

Intestinal diseases such as the diarrhoeas, are transmitted through the milk and water; chiefly among them is that caused by the shiga-flexner bacillus.

In small towns, such as York and Hanover, the milk problem is equally important. In Hanover, for instance, the prevalence of diphtheria is found most continually and many children are claimed in its wrath. The schools have been held largely responsible, but I believe that not until the health authorities conduct a systematic search for the source of infection or contamination of its milk and water supply will its progress be stopped.

In conclusion it can no longer be doubted that dairy products, including milk, cream, ice cream, butter and cheese are excellent culture media for pathogenic bacteria. Outbreaks of typhoid fever, scarlet fever, diphtheria, different varieties of sore throat, and intestinal disorders of children have been definitely traced to contaminated milk and water. The proofs of tubercular infection from these products are accumulating daily, and

that the diarrhoeal diseases of infants are generally due to improper food.

To capitulate briefly:

1. The public should be educated as to the value of pure milk and its relation to disseminating disease.
2. Scrupulous cleanliness in its production and care.
3. The physical condition of the cow.
4. That pure, clean, raw milk is better than that pasteurized or sterilized.
5. That raw, clean milk modified to suit the individual infant is the best substitute food.
6. That because of the possibility of transmission of bovine tubercle bacilli, tuberculous cattle should be eradicated.
7. Because of the agency of milk and water as carriers of disease the same should be inspected by competent inspectors.
8. The importance of milk depots in every city properly regulated.
9. And lastly, but not least, swat the fly.

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## AN ABSORBABLE PLATE FOR USE IN THE OPEN TREATMENT OF FRACTURES.\*

BY ALEXIUS McGLANNAN, M. D., BALTIMORE.

The fixation apparatus I have to present consists of plates and pegs made from animal bone. This apparatus is sterilized by boiling and then applied directly on the bone in a manner similar to that used with the non-absorbable plate. Holes are drilled through the plate and into the fragments after reduction, and the pegs are then driven in and sawed off a short distance from the plate. The length of the peg left varies with the depth of the wound. Two pegs are put into each fragment.

I have also an intermedullary splint, turned from animal bone. This splint has a hole drilled at each end through which is threaded a catgut suture. In using this, one fragment of the fractured bone is dislocated

\* Presented at the annual meeting of the Maryland State Medical Society (Medical and Chirurgical Faculty), and at the Clinic Day of Orthopedic Association, Baltimore, May 5, 1913. Reprinted from the Journal of the American Medical Association, August 2, 1913, Vol. LXI, p. 333.



out of the wound far enough to make the medullary canal accessible. A hole is drilled through the cortex about one inch above the break and a double strand of wire passed through this hole and out through the end of the canal. The catgut is threaded through this wire and with it drawn out of the cortical opening. The entire splint is now forced up into the canal and the fracture reduced. While the fracture is held in a clamp, traction is made on the catgut, drawing the splint into the medullary canal of the other fragment much as a bolt is driven into its keeper. The catgut is now threaded on a needle and sewed into an adjacent muscle or fascia.

I have had only one opportunity to use the absorbable plate and none to use the intermedullary splint. The plate was used in the case of an oblique fracture of the tibia occurring in a boy aged 10. Closed reduction failed to hold the fragments in good apposition. The plate was applied with four pegs. Convalescence was uneventful and at the first dressing on the twenty-first day, pegs and plates were felt *in situ*. At the next dressing, ten days later, the pegs had been absorbed and the plate felt loose in the subcutaneous tissue. It was easily removed through a small opening and the erosion shows the extent of the absorption that had occurred.

Fixation of the tibia is a severe test for any form of plate. This case shows, I think, that, while my plate is needlessly thick for fixation, absorption will occur, and that, in a deeply placed bone such as the femur, complete absorption would take place in the time required for immobilization of a fracture, and that the plate would resist absorption sufficiently long to give the necessary fixation.

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# THE JOURNAL

## OF THE ALUMNI ASSOCIATION

OF THE

### COLLEGE OF PHYSICIANS AND SURGEONS,

### BALTIMORE.

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#### THE PRESENT STATUS OF THE COLLEGE OF PHYSICIANS AND SURGEONS.

The school is in the forty-second year of its existence, having had its origin in the way that a large majority of the medical schools of its day followed, that of being easily chartered and organized to teach medicine and grant degrees, and incidentally to be a source of profit to its promoters. It had no capital and no endowment, but was dependent solely on the fees of students to provide what was needed for equipment and possibly to furnish at the end of the session a modest sum for distribution among the members of its teaching staff. The equipment in the earlier years was meager, the sessions were short and the amount collected and available for distribution was small. When the time came for changing the curriculum from the old two-year system to first the three-year and then the four-year graded course, the college fell into line promptly. And so with other requirements, relating to higher standards of preliminary education, the development of laboratories, the employment of full-time teachers. The most notable advance, the substantial improvement, has come in the last two years. It was perhaps not fully appreciated during the first few years of the four-year course, the use that could be made of the additional time; nor were the courses correlated to the best advantage. But in the last two years, particularly with the recent feature of full-time teachers, the impetus given to more effective work on the part of teachers and students has been remarkable. It was expected that these changes would entail unusual expense and it was fully realized that with increased

charges for tuition there would still be needed the greatest prudence in the expenditure of the income. But with this in mind no motives of economy have been permitted to hamper the work of any department, nor to deprive the student of any advantage to which he was fairly entitled. There is still no endowment, but there is no thought of dividend to members of the faculty and salaries are paid only to full-time teachers or laboratory instructors.

The recent gift of the Board of Education to the Johns Hopkins Medical School, enabling its trustees to inaugurate a new system of teaching in three important clinical branches, must have an almost immediate influence in establishing similar conditions in other university schools. The effect upon medical education will be of the greatest benefit, and it will be shown mainly in supplying a gradually increasing number of well trained men, many of whom will be available as full-time teachers and as part-time instructors in the secondary medical schools or those teaching practical medicine.

No single factor has contributed more to the promotion of efficiency in medical schools than the employment of full-time teachers. This move on the part of the schools was made obligatory if they aspired to a high rating in the classification of medical schools by the Council on Education of the American Medical Association. It was required too, in the standard of eligibility adopted by several of the state boards throughout the country. Every one interested in medical teaching realizes that this innovation has been productive of the greatest benefit to the teaching body as well as to the students themselves. A right minded faculty after a fair trial of the plan would rather close their school than dispense with its corps of full-time teachers.

The adoption of more rigid rules relating to entrance requirements and their strict observance, as also the rules affecting class promotion, has had the effect of lessening for time the number of students in attendance and of diminishing to that extent the annual receipts. What has been lost materially by these processes of elimination has been largely repaid by improvement in the quality of the student body and by the mutual recognition of the fact that honest intelligent work is necessary to secure the desired results.

A critical study of the present schedule will show that from the begin-

ning of the Freshman year to the end of the Senior year the student's time is fully occupied. More hours are devoted to anatomy in the first and second years than heretofore, and in both these years much stress is laid upon the work done in the physiological and other laboratories. Members of the third year class are drilled daily for two hours in clinical methods, which a few years ago were unknown to the members of the fourth-year class. Both third and fourth-year students are required to do work in the clinical laboratory of an amount and character that until comparatively lately would have been thought impossible. Without specifying further it may fairly be said that in every department an impetus had been given to faithful work which impresses the older members of the faculty as remarkable. So it would impress our older graduates.

We have not been simply marking time and believing that we have a good school; we wish not only to maintain it, but steadily to improve it. We look to our two thousand and more alumni for their moral support, and indirectly we want their financial aid as well. We feel the need of their help more now than ever before, but in asking this we gratefully acknowledge all we owe them for their devotion in the past. After January 1, 1914, a further entrance requirement will be imposed, viz., a college year of chemistry, physics and biology. This may have the effect of further lessening the number of applicants for admission to the Freshman class, although the fact has been freely published and seems to be generally known among prospective students. It is not reasonable to suppose that the Council on Education of the American Medical Association will shortly impose any additional requirements.

To continue successfully the College of Physicians and Surgeons, with its enormous advantage of an almost unrivalled supply of hospital and dispensary cases, needs for the next few years *an adequate number of qualified students*. To secure these it depends to a great extent upon the loyal support of its alumni. In return for their aid we can only offer, to such as wish the privilege, ample opportunity to take laboratory or other special courses during the summer months, and a cordial welcome at all times to see what the college is really doing in the way of medical teaching.



## MUNICIPAL CARE OF INFECTIOUS DISEASES.

Along with the many hygienic reforms that have been urged in recent years there is one which has not received full measure of attention and curiously enough it is one which offers greater hope of immediate reward than almost any other undertaking. This is the care of infectious diseases in municipal hospitals, particularly the care of diphtheria and scarlet fever. For some reason there has been a general neglect of this subject in a large number of American cities, and almost without exception nothing like adequate provision is made for this class of cases. Boston and New York come nearer the ideal than any other place, but even in these two cities the number of beds supplied falls far short of what is believed to represent an efficient number. The English who have devoted a considerable amount of attention to this subject have suggested that one bed for each thousand inhabitants will approximately care for the so-called minor infectious diseases under normal conditions. In New York the proportion is about 1 to 2500, in Baltimore about 1 to 17,000, and most of the American cities are either entirely lacking in the proper provision or come in the list represented by Baltimore in which a feeble effort is made to provide isolation. Both scarlet fever and diphtheria may be easily and efficiently isolated, and both are spread chiefly in two ways, first by direct infection of the individual from the patient, and secondly, by carriers or those who retain in their bodies the germs of the disease without actually having it, or who retain them for unusually long periods after an attack. It needs no argument to make clear that if the individual suffering with diphtheria and scarlet fever is isolated from the rest of the community there will be neither cases nor carriers. Every case of one of these diseases which is not properly isolated acts as a focus from which the disease may spread, and each additional case thus caused starts a new point, so that in spite of the efforts of the health authorities these diseases remain epidemic in all of our large cities. In providing a place for the isolation of these diseases the community would be acting in its own interest, and the building of such hospitals should not be regarded as doing anything very much for the individual suffering with the disease, but rather to keep well the remainder of the community. It should be the duty of every health department to remove all such cases where they would no longer be a danger to the community. This, of course, cannot be

done unless the city provides adequate hospital accommodations, not only for the very poor but for the well to do as well. In most American cities there occur every year cases in boarding houses, in hotels and in transit, a great many cases which tax the ingenuity of the physicians and the health authorities. Such a hospital requires the services of physicians specially trained in the management of infectious diseases and in preventing their spread, and such physicians should fill permanent positions with adequate salaries and free from political influences. Another argument for filling the great need of American public health is trained health officers who devote their entire time to their public duty, who are properly trained and adequately recompensed.

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### DR. KEIRLE'S BIRTHDAY.

Our good friend, Dr. Nathaniel G. Keirle, was eighty years old on the 10th of October. Almost all of the teaching staff of the College of Physicians and Surgeons gathered at the University Club on the following evening, October 11, at a birthday dinner to celebrate the event with him in the most informal way.

Dr. Harry Friedenwald acted as toastmaster. Drs. Chambers, Sanger, Jones, McCleary and Wm. Simon offered toasts to the guest of the evening.

At the close of the dinner Dr. Keirle was asked to speak, and he rose reluctantly and said:

"I have come a long way 'non sine pulvere.' I am travel-stained and worn but if I have made good to be classed among those of whom it is written 'the aged are good for counsel,' I shall be satisfied.

'Far out of sight while sorrows still infold us  
Lies that fair land where our hearts abide  
And of its bliss is naught wondrous told us  
Than these few words—I shall be satisfied.'

'A good name is rather to be chosen than great riches, and loving favour than silver and gold. Your presence attests that I have both.'

"Two men are absent, one a doctor, the other a judge. Without invidious distinction, these two have always manifested toward me an attribute

of the Almighty, whose 'loving kindness changeth not.' . . . I shall cease talking, words cannot express my feelings. . . . It is with feelings as with waters—'The shallow murmur, but the deep are dumb!'"

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## Obituary.

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DR. LINGARD I. WHITEFORD, '97, of Fullerton, Md., died at the home of his mother in Parkville, Baltimore, August 8, aged 35.

DR. RICHARD DULANEY LEITH, '77, of Vienna, Va., died in a sanatorium near Richmond, Va., September 27, from arterio-sclerosis, aged 60.

DR. WILLIAM HENRY MCCARTHY, '91; a member of the Massachusetts Medical Society; of Brockton; died in that city about August 22, from appendicitis, aged 70.

DR. JOHN G. HUCK, '82, a Fellow of the American Medical Association and a well-known practitioner of Northwest Baltimore, died in Johns Hopkins Hospital, August 13, from heart disease, aged 63.

DR. GARLAND PAYNE MOORE, '86, acting surgeon U. S. P. H. S., a member of the Medical Society of Virginia, whose last station was at Kobe, Japan, where he was on duty at the American Consulate, died suddenly at sea September 9, while en route to the United States, aged 49.

DR. ALBERT STEUBEN HOTALING, '94, a Fellow of the American Medical Association; professor of obstetrics in the Syracuse University College of Medicine; one of the most prominent practitioners of Syracuse; died at the Hospital for Women and Children in that city August 8, a day after an operation for appendicitis, aged 40.

DR. FERDINAND N. SAUER, JR., '01; formerly a member of the American Medical Association; a member of the Medical Society of New Jersey; medical examiner for the New Jersey Civil Service Commission; a pioneer in the establishment of pasteurized milk depots in Jersey City, while chief inspector of the Jersey City Board of Health; died at his home in Jersey City, June 8, from heart disease, aged 39.

## Personal Notes.

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DR. FRANCIS M. BARNES, JR. has located in the Metropolitan Building in St. Louis, Mo. Practice is limited to mental and nervous diseases.

DR. JESSE A. POWELL was married on August 2 to Miss Nell Noreen Nelson, the niece of Dr. and Mrs. Henry B. Ferguson. The ceremony took place at Mt. Vernon Methodist Episcopal Church, Washington, D. C. Dr. and Mrs. Powell will make their home at Harrellsville, North Carolina.

DR. REID HUNT, '94, has been appointed professor of pharmacy at the Harvard University. Dr. Hunt has been, for a number of years, at the head of the pharmacological department of the Hygienic Laboratory in the United States Public Health Service and has contributed a large number of the most valuable contributions to our knowledge of pharmacology, among which may be mentioned the relation of certain drugs to nutrition and certain experimental work on the thyroid gland. He has also been a member of the Council of Pharmacy and Chemistry of the American Medical Association and has assisted greatly in the work of that body. Dr Hunt will be succeeded by Dr. Carl Voegtlin, who is a graduate of Frieburg University.

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## Correspondence.

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FALL RIVER, MASS., October 6, 1913.

MY DEAR DR. BRACK.—Please apply the enclosed check of \$2 to my account with the JOURNAL.

I am sure the Class of '99 will be very sorry to learn of the death of one of its most popular members, that of Dr. M. P. Campbell, of Provincetown, Mass.

After graduating, the doctor settled in his home town and in a comparatively short time his talents and sterling worth of character gained for him the goal for which he was striving—success.



However, close application and arduous work commenced to undermine his system; but instead of heeding his own danger signals he listened to those of his patients.

Like a soldier on duty guarding the welfare of those in his charge, and while almost bowed down by his own serious illness, he labored night and day.

At the last moment he sought to mend his own body and, while on a trip to Boston for that purpose was fatally stricken down.

By the death of Dr. Campbell, Provincetown loses its leading physician and one of its foremost citizens, while the loss to his family is immeasurable.

The deepest sympathy is extended to his family by all who knew him.

Yours truly,

JOHN M. LEONARD, '00.

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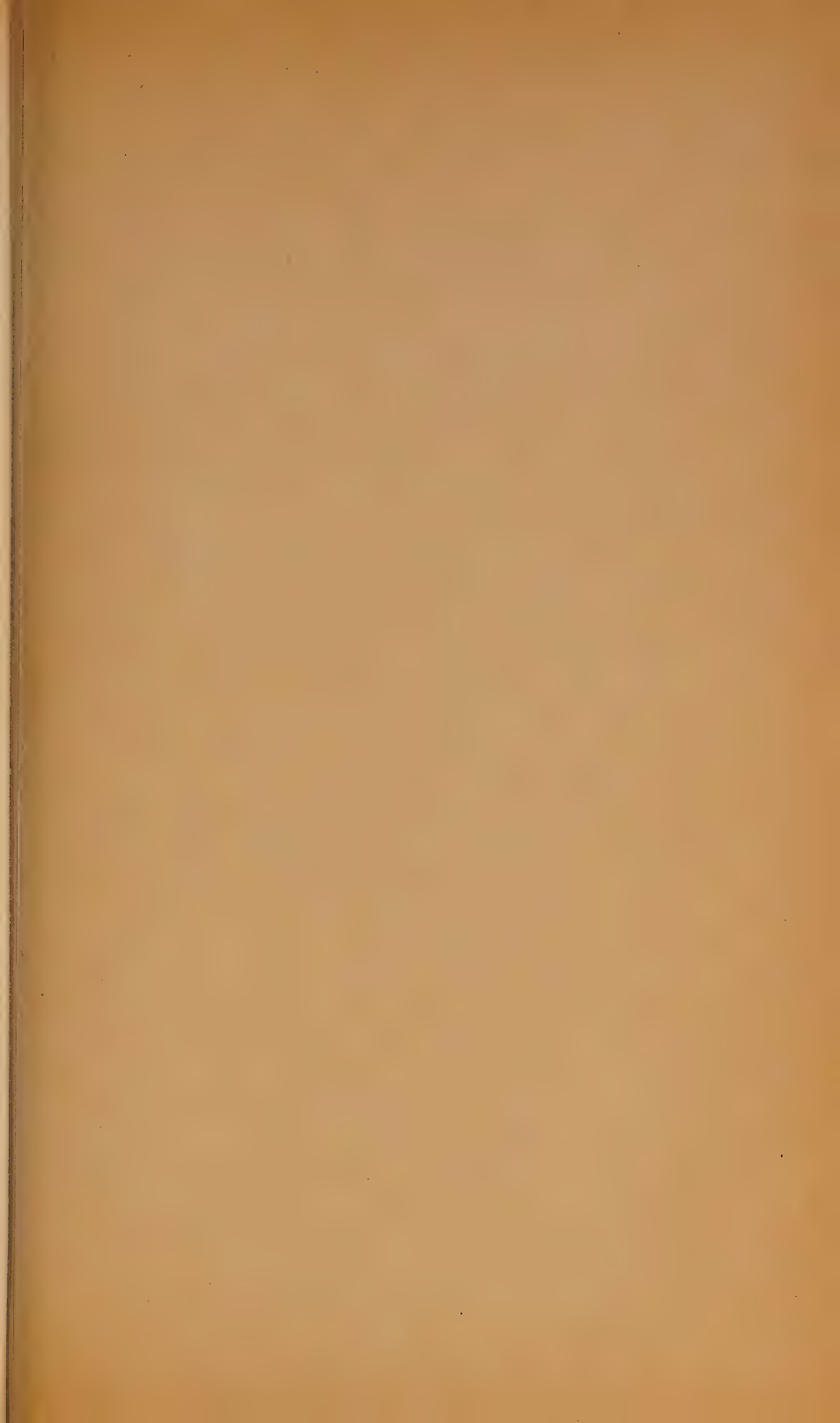
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1. American Journal of Anatomy.
2. American Journal of Biological Chemistry.
3. American Journal of Diseases of Children.
4. American Journal of Insanity.
5. American Journal of Medical Sciences.
6. American Journal of Physiology.
7. American Journal of Obstetrics.
8. American Medicine.
9. American Chemical Journal.
10. Annals of Otology, Rhynology and Laryngology.
11. Annals of Surgery.
12. Archives of Internal Medicine.
13. Brain.
14. Johns Hopkins Hospital Bulletin.
15. Medical and Chirurgical Faculty of Maryland.
16. Chemischen Berichte.
17. Chemical Abstracts.
18. The Clinical Journal.
19. Journal of Experimental Medicine.
20. Journal of Medical Research.
21. Journal of Pathology and Bacteriology.
22. The Lancet.
23. Laryngoscope.
24. Mittheilungen und der Medizin & Chirurgie.
25. Index Medicus.
26. Journal of American Chemical Society.
27. Journal of Abnormal Psychology.
28. Journal of Mental and Nervous Diseases.
29. American Medical Association Journal.
30. Medical Record.
31. New York Medical Journal.
32. Institute Quarterly.
33. Southern Medical Journal.
34. Ophthalmoscope.
35. Zetrschrift Urologie.
36. Journal of Obstetrics and Gynecology of the British Empire.
37. Dominion Medical Journal.
38. Old Dominion Monthly.
39. The Boston Medical and Surgical Journal.
40. Journal of Alumni Association of P. & S.
41. Journal of Physiology.





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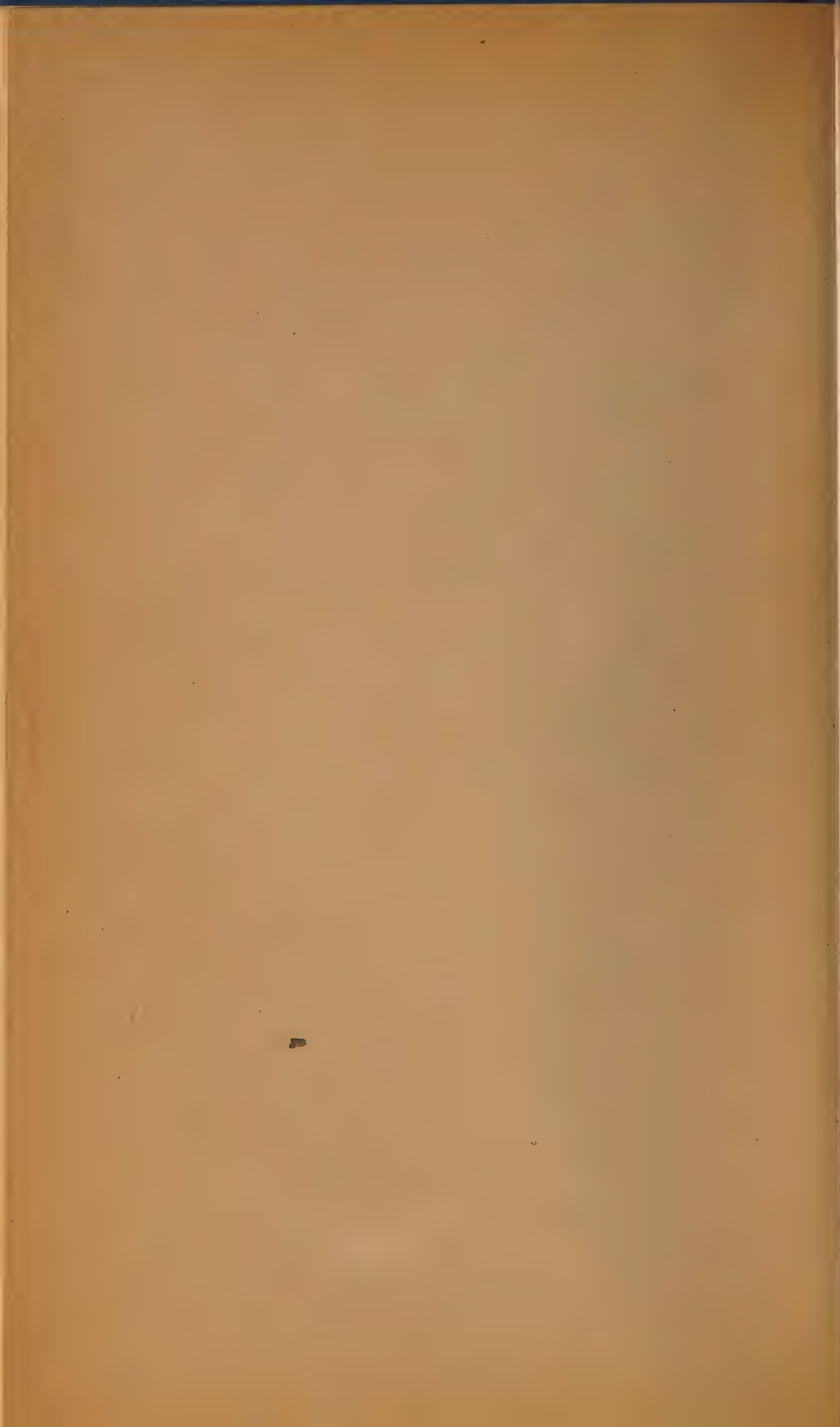
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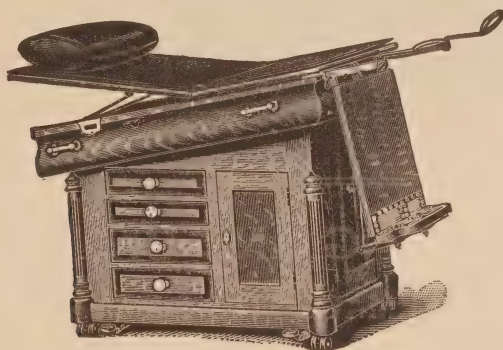
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TREATMENT OF NOCTURNAL ENURESIS IN CHILDREN.\*

By JOHN RUHRÄH, M. D.

NOCTURNAL incontinence of urine in children is one of the common and one of the most troublesome conditions which the physician is called upon to treat. It is perhaps for this reason that it is so commonly neglected both by the profession and by the laity. The physician after one or two therapeutic ventures dismisses the case with the suggestion that the adenoids should be removed, or if it is a boy that he be circumcised, and then if these suggestions are carried out and a cure does not result the family of the child becomes resigned to what they regard as inevitable.

If we exclude at the outset those cases in which there is evidence of mental deficiency and those caused by congenital malformations, we have a group of cases which were formerly regarded as "essential" or idiopathic enuresis. As our knowledge of the subject has increased the idiopathic cases have gradually diminished in number and Bazy aptly remarked that essential enuresis means essential ignorance.

Enuresis is a symptom and the underlying cause should be diligently sought. From the articles on the subject one gathers that many authors have theories which their statistics prove to be correct and one is reminded of the blind men and the elephant.

In the first place some of the children who suffer from enuresis have imperfect or undeveloped spinal cords. The diagnosis in these cases can only be suspected, but perhaps the main test is that these are the cases which resist treatment and which persist throughout life. Some of the individuals may show other signs of physical degeneracy, some do not.

\* Reprinted from the American Journal of the Medical Sciences.

Frankl-Hochwart has noted the fact that many adults suffering from neurasthenia give the history of enuresis in childhood.

Certain cases are apparently of an epileptoid character and Pfister<sup>1</sup> believes that those cases in which enuresis first manifests itself after five years of age and in which the symptom is not constant but comes on at intervals, belong to this class.

Many children with enuresis suffer from an over irritable nervous system and this may account for small lesions causing the urine to be passed through reflex irritability. In other cases the irritating lesion is marked and would affect the nervous system of the normal child.

Vulvitis and vaginitis in girls and urethritis and balanitis in boys are amongst the most common reflex causes of enuresis. The seat of the irritation may be in the rectum and a polypus, fissure or ulcer may be the unsuspected cause, or perhaps much more frequently infection with the oxyuris. Calculi, tuberculosis of the bladder and vesical polypi may be mentioned as some of the causes. Hypertrophy of the bladder has also been met with. The drinking of too much fluid, especially in the evening, or the habitual eating of salty or other food causing thirst should be borne in mind.

Bed wetting may result from mere laziness and in other instances a child may sleep so soundly that the warning of the distended bladder is unheeded.

Another cause is abnormal muscle tone and Merklen<sup>2</sup> considers enuresis an element of weak motor inhibition.

In 1893 Freund<sup>3</sup> mentioned the fact that in about half of the sufferers from incontinence of urine there existed a hypertonia of the muscles of the legs, and he therefore attributed the increased micturition to an exaggeration of the vesical tone. This conception of the disease has never met with any great recognition by clinicians. In order to get some information concerning the condition Merklen studied 164 children between the ages of 3 and 15 years in various stages of intellectual development, but the number did not include any idiots. In 116 the muscles were normal and in 48 they were weak. The 116 normal children included only 8 who suffered from enuresis, whilst the 48 weak ones included 18,

<sup>1</sup> *Monatschrift f. Psychologie u. Neurologie*, 1905, XV, p. 113.

<sup>2</sup> *Bulletins de Société de Pédiatrie de Paris*, June, 1909, p. 339.

<sup>3</sup> *Neurologische Zentralbl.*, Nov. 1, 1893.

or a proportion of 6.8 per cent, as compared with 37 per cent. In the 26 children who had enuresis the ages varied from 4 to 14 years of age. Looking at the problem from this standpoint, 69 per cent showed motor weakness of the muscles.

Merklen calls attention to the fact that in these children cataleptoid attitudes are more frequent than among normal children.

It has long been known that children with adenoids are liable to suffer from enuresis. Fisher operated on 716 cases and of these 106 or 14.8 per cent had enuresis. Mygin in 400 cases found 31 cases or 7.75 per cent. Gruback in 427 cases found 61 with enuresis or 14.28 per cent. On the other hand Lilang examined 50 children with enuresis and found only 8 who had adenoids. He operated on these and only cured one.

Allaria<sup>4</sup> reported 22 cases of which 8 were cured, 3 improved, 9 not improved and 2 cured spontaneously. Of the 8 cases which were not cured 1 had a rectal papilloma, 3 showed signs of mental degeneration and sometimes had incontinence of the feces due to a weak sphincter.

Kapsaun reported 35 cases all cures, and in a second series of 20 cases, 15 were cured and 5 improved, and Cautas in 15 cases cured 13 and the remaining 2 were improved. These latter statistics are so favorable that one is inclined to believe that there must be some error in them.

Williams has written several articles on the subject of enuresis and he has found a certain class of cases which may briefly be described as follows:

These children suffer with subnormal temperature, with a usual range of from 96.2° F. to 97.2° F., and in some cases the temperature is even lower than this. They complain of being cold, even though they may be somewhat overclothed, and they often have what is popularly spoken of as "dead fingers"—that is, one or more fingers become blanched and very cold when the child is exposed to cold and often at other times. These children feel cold even in summer and suffer more at night than during the day. They are also undersized and under weight. About one-half the cases have adenoids but the nasal respiration is perfectly free. The high arched palate is present in all these cases, and Williams believes that all these things taken together indicate a thyroid insufficiency.

<sup>4</sup> *Gazetta degli Ospedali et delle Cliniche*, April 27, 1909, p. 529.



It is generally admitted that one of the functions of the thyroid secretion is to fix the calcium salts in the tissues and that without a sufficient amount of secretion the salts cannot be utilized and bone formation is defective and the child fails to grow normally. He believes that the change in the shape of the bones is due to the fact that the bones are softer without sufficient calcium salts and so are more easily affected by pressure. Williams believes that the factor that decides the difference between the results of thyroid insufficiency in adults and the same insufficiency in children is the fact that the needs for the salts of calcium at the two periods of life are widely different.

Hertoghe<sup>\*</sup> has called attention to certain cases of myzodema fruste in childhood, in which nocturnal enuresis was mentioned as one of the symptoms. In this connection it is interesting to note that Léopold Lévi and H. de Rothschild have called attention to another sign of thyroid insufficiency, which they call the eye-brow sign (*signe de sourcil*). It consists in the lessening in the amount of the outer third of the eye-brow and sometimes in complete absence of this. Whenever this sign exists other evidence of thyroid inadequacy should be sought. It should, however, be borne in mind that perfectly developed eye-brows may be seen in individuals who have a high degree of thyroid insufficiency, and that in other instances the eye-brow may be deficient with a normal thyroid. This sign is of particular advantage in that it is easily observed.

Hamonic<sup>\*</sup> has studied the question of the relation of phimosis and incontinence of the urine, and he believes that a long adherent prepuce is a factor in causing it. He has performed 187 circumcisions for the exclusive purpose of curing this condition. Of these, 130 were cured, 47 of which were relieved within from 2 to 25 days, and 83 after 6 weeks. Fifty-seven of the cases were lost sight of. In some instances there was a history of enuresis in the family. He believes that both in boys and girls, genital irritation plays an important rôle in nocturnal incontinence.

The following table shows rather imperfectly the causes of nocturnal enuresis:

<sup>\*</sup> Bulletin de l'Académie de Médecine de Belgique, IV Series. Tome XXI, No. 4.

<sup>\*</sup> Revue Clinique d'Andrologie et de Gynécologie, 1909-1910, p. 1.

## Physiologic—Taking too much fluid.

Eliminative .....	<div>Due to faulty metabolism.</div> <div>Eating too much salt, etc.</div> <div>Due to drugs.</div>
Urine .....	<div>Hyperacidity.</div> <div>Alkalinity.</div>
Genito-urinary Organs.	<div>Bacteriuria. { Urethritis.</div> <div>Inflammations { Cystitis.</div> <div>Malformations. { Pyelitis.</div> <div>Calculi.</div> <div>Tumors or polypi.</div> <div>Hypertrophy.</div> <div>Hypertonia or irritability of bladder.</div> <div>Weakness of sphincter.</div>
Nervous System .....	<div>Reflex { Balanitis.</div> <div>          { Vulvovaginitis.</div> <div>          { Fissure anus.</div> <div>          { Rectal polypi.</div> <div>          { Intestinal parasites.</div> <div>Malformation of spinal cord.</div> <div>General irritability.</div>
General .....	<div>Diabetes mellitus.</div> <div>Diabetes insipidus.</div> <div>Rachitis.</div> <div>Thyroid insufficiency.</div> <div>Enlarged adenoids and tonsils.</div>

In a similar way the suggestions for treatment may be tabulated, but no pretense is made to include all of the things that have been suggested.

Restriction of fluids.

Diet.

Protection from cold.

Rest and quiet life.

Postural treatment.

Waking child to empty bladder.

Suggestion not to urinate.

Suggestion to call out in sleep that there is a desire to urinate.

Moral hygiene in lazy children.

Reflex imitation..	<div>Passive catheter or sound.</div> <div>Galvanic current.</div> <div>Galvanic cautery.</div> <div>Faradic current.</div>
Drugs .....	<div>Injections of nitrate of silver solution.</div> <div>Injections of normal salt solutions, etc.</div> <div>Epidural injections (Cathelin).</div> <div>Retrorectal (Jaboulay).</div> <div>Perineal (Cahier).</div> <div>Atropine sulphate.</div> <div>Strychnine sulphate.</div> <div>Bromides.</div> <div>Ergot.</div> <div>Hexamethylenamine.</div> <div>Desiccated thyroids.</div>

Amongst the more interesting of the newer suggestions as to treatment are the results which have been obtained by Williams.<sup>7</sup> He has published two series of cases which he has treated by the use of the desiccated thyroid. McCready has also written upon this subject. Williams' cases all belong to the class described above, and he obtained wonderfully satisfactory results in all except one case and it is interesting to note that in this case the child did not have a subnormal temperature. Williams administered one-half grain of the dried thyroid twice daily to children who were between two and six years of age, and this amount may be increased somewhat for older children. The increase in dosage should be made slowly, as directly opposite effects are occasionally induced by over dosage. The results as described by Williams in his own words were exceedingly dramatic.

I have had occasion to use this method in a small series of cases, and these were not picked cases as were evidently the cases in the series which Williams reports. In a small proportion of cases in which there were more or less marked signs that might be attributed to thyroid insufficiency, the results were quite remarkable. These were all children with adenoids and enlarged tonsils, or in some cases children in whom the adenoids and tonsils had been recently removed. In my series of cases the effect was obtained promptly or not at all. In every instance in which a favorable result was obtained a marked difference was noticed after the administration of one or two doses of the drug, and in all cases within a week.

Another remarkable observation which coincided with the result obtained by Williams, is that the undersized children gained weight rapidly. Williams mentioned one patient that gained five pounds in a week, and another two pounds and seven ounces in a week. However, most of the patients gained less rapidly.

Another curious thing, which Williams has not mentioned, is that it has not been necessary to continue the thyroid over long periods of time, although in this regard I may have been accidentally fortunate and relapse in some cases may probably be looked for.

In several instances in which the children had high arched palates but no subnormal temperature, the thyroids had no effect whatever.

<sup>7</sup> Williams: *Brit. J. Chil. Dis.*, 1909; *Lancet*, 1909, I, 1245; *Polyclin.*, Lond., 1909, XIII, 61.

Of the other methods of treatment with the newer remedies one may mention briefly the following:

Attention has been called to the use of hypnotism in the treatment of nocturnal enuresis by Voisin.<sup>8</sup> He has reported one interesting case, in a boy aged between 13 and 14 years. In this patient, the urine was sometimes passed without dreams and at other times was accompanied by dreaming of the act. After several trials, Voisin was able to put the boy into hypnotic sleep, and on the following suggestion, that he would not dream any more, obtained a disappearance of the incontinence for six days. He was hypnotized again and the same suggestion made which lasted for three days. He then made an epidural injection of artificial serum on three different occasions, and continued to hypnotize him once a week for a month. The patient has been entirely well for over a year. Voisin raises the question as to what the action of the epidural injection was in this case, whether the therapeutic effect was due to its action on the cauda equinus, or whether it acted by suggestion. One is inclined to believe that the latter is the proper explanation. Amongst the rose colored statistics are those of Culler who treated 64 cases with hypnotism and claims to have cured 50 and bettered 10.

Genouville<sup>9</sup> has made an interesting communication to the Association Francois d'Urologie on a simple device which he has used with considerable success in certain cases. It probably acts as a sort of suggestion without words. He states that the idea of the apparatus is not original with him, but he had forgotten where he saw the mention of it. It consists of placing in the bed of the child under the region of the pelvis two metal plaques separated by a piece of flannel or a piece of absorbent cotton. These two metal plaques are connected with wires each to one pole of a battery and a bell. When the infant urinates the cotton becomes wet and completes the circuit and causes the bell to ring. The infant is awakened and the micturition is stopped, and after being thus awakened several times, the patient is frequently cured. This has only been tried in a comparatively few cases by the inventor. A remarkable thing in connection with it, is that most of the cases that were cured, were cured

<sup>8</sup> *Revue de l'Hypnotisme et de la Psychologie Physiologique*, 1908-1909, XXIII, p. 247.

<sup>9</sup> *Revue Prat. d. Mal. d. Org. gen.-urin.*, 1909-1910, VI, p. 59.



very promptly. A modification of the device consists in having the apparatus arranged to give a slight electric shock on the abdomen of the child.

The use of the injection of salt solution has also been suggested. Cathelin has suggested making the injection directly into the spinal canal by means of lumbar puncture, or in other instances subcutaneously in the sacral region. Jaboulay has suggested retro-rectal injections of 100 to 150 gm. of salt solution, and Cahier<sup>10</sup> has suggested subcutaneous injections into the perineum. He used between 60 and 70 gm., making the injections 1 or 2 cm. on either side of the median line. He claims to have had especially good results in the treatment of the adult cases.

Lozano and Forès<sup>11</sup> have used the epidural method with success, injecting the solution into the spinal canal, making the injections low down in the sacral region towards the bottom of the canal. Whether the results obtained by these injection methods are purely to be attributed to the mental effect, or whether they act reflexly, one cannot say. In refractory cases this method might be tried.

Of the old fashioned means of treating this disease there are one or two things which may be mentioned. The first is to place the child upon a simple non-irritating diet and to restrict the amount of fluid taken, particularly the amount of fluid taken after four or five in the afternoon. Secondly, in some cases raising the foot of the bed so that the irritable neck of the bladder is not quickly affected by the first urine which enters the bladder. Certain cases are improved by a large amount of rest and leading a quiet life. General reflex irritability may be caused by too strenuous a life, particularly long automobile rides and the like. I have seen on several occasions the simple directions to have the child stay in bed until it is ready to get up in the morning and to lead a quiet life generally result in cure.

In hospital practice a large proportion of the cases can be improved by a more or less dry diet and restriction of fluids. Where there is no other indication for treatment I have found the use of atropine to give better results in a greater number of cases than any other one thing in the suggestions made. To be of any service atropine must be given in full

<sup>10</sup> Med. Et. Pharm., mil., 1909, Vol. LIII, p. 401.

<sup>11</sup> La Clinica Moderna, April, 1911.

doses. In nocturnal cases a dose at five o'clock and at bedtime is all that is required. In cases occurring both during the day and night, the administration of the drug every three hours is to be advised. I usually prescribe a solution containing one grain of atropine sulphate in two ounces of water. Each drop of this represents approximately  $1/1000$  of a grain, and ordinarily about as many drops will be required at a dose as the child is years old; but this is not the proper method of ascertaining the dose. Starting with one or two drops each dose should be increased one drop at a time until flushing of the face and neck occurs some twenty minutes after the administration of the drug. The dose should be diminished one drop and this amount continued until the child has ceased urinating at night and for at least two weeks later, when the drug may be left off gradually, diminishing a drop at a time until one drop is reached when it may be stopped.

It is hardly necessary to comment upon all the things mentioned in the table above. The chief object in writing this paper was to call attention to some of the things which have been published recently, and to call attention to the fact that there exists a small class of cases in which the thyroid insufficiency evidently causes nocturnal enuresis and which may be cured by the administration of the thyroid with great benefit to the general health and growth of the child.

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## DOCTOR OTEY YANCEY WARREN.

"There is a grandeur in mountains  
There is a glory in tombs."

WRITTEN FOR THE HISTORICAL SOCIETY OF MONTANA BY

WILLIAM A. GORDON, Jr.,

*Member of the Montana State Bar.*

The subject of this biographical sketch was born and bred in that section of the state of Virginia to which General George Washington had reference when, hard pressed by the exigencies of a New Jersey campaign, during the Revolutionary War, he exclaimed:

"Strip me of the wretched and the suffering remnant of my soldiers—take from me all I have left—leave me but a standard—give me but the means of planting it upon the mountains of West Augusta, and I will yet draw around me the men who will lift up their bleeding country from the dust and set her free!"

and any one acquainted with the natural beauty of this fine blue grass region, lying as it does in the highlands just westward of the main range

of the Alleghany Mountains, will cease to wonder that one reared under its inspiring influence should prove, throughout an all too short life of glad usefulness, a purity of character in keeping with its unexcelled standard of example.

Otey Yancey Warren was born on the first day of January, 1861, at Lewisburg, Greenbriar County, Virginia (now West Virginia). He was the second child and oldest son of Stuart Irving and Mary Katharine (Johnson) Warren, both of whom were of English extraction emigrated from the Shenandoah Valley of Virginia the early part of the eighteenth century. The almost stubborn tenacity which Doctor Warren manifested in maturer years, whenever and wherever he had "made up his mind" that any proposition was right, can easily be traced to a proclivity not at all unusual in his Anglo-Saxon forbears. Mr. Stuart Irving Warren was a newspaper editor, a vocation calling for a man of strong convictions and fearlessness in those days of ante-bellum political excitement. Mrs. Stuart Irving Warren is reported to have been a splendid type of that sweet and lovely womanhood that flourished in her generation and for which the Southland was justly famous. Doctor Warren, exemplifying in himself, at one and the same time, the courageous moral nature of his father and gentle temperament of his mother, might well have been excused for being a firm believer in the influence of heredity, aside from any professional ideas or theories he entertained touching its scientific features.

The early childhood of Doctor Warren was spent within the almost constant sound and thrilling atmosphere of war; and, on at least one occasion, upon the very field of a pitched battle itself. Lewisburg was well within the "fighting zone," and a constantly fortified camp; so that the boy's earliest recollections were those of the boom of cannon, the flashing of bayonets, the smell of burnt powder, and the harrowing scenes incident to the brave and no less sanguinary struggle between the Confederate and the Federal Armies. Young Warren's father, like all other able-bodied Virginians of his period, was a soldier in the field, fighting in defense of the honor and rights of his sovereign state. Thus, the baby boy, named by his father "Yancey," after that ardent secessionist and Southern political leader, Hon. William Lowndes Yancey, was left to solace and protect his mother and little sister, as well as to share the priva-



tions almost universally and invariably suffered by all classes, both white and black, at that time, while his father was absent from his home engaged in active military duty on the firing line. It is quite unique to note the close parallel of the earlier and later careers of Doctor Warren—in the first instance, war, followed by reconstruction against the almost overwhelming, hopeless odds of opposition; succeeded, in the second instance, by Doctor Warren's application of his personal efforts towards harnessing frontier resources for the healing of those mentally afflicted and physically oppressed. Of him it might well be said that, born a veritable son of war, his whole life was given to "the struggle of the brave and battle of the strong."

At the close of the war between the states, Mr. Stuart Irving Warren moved his wife and children, they being all that remained to him after the surrender at Appomattox, to Union (formerly Monroe Court House, and part of the territory known at an earlier date as West Augusta), Monroe Country, *West Virginia* (under the new political dispensation), where he resumed his work as a newspaper man; and it was here that the boy Warren grew to man's estate, gained his early education, and came to know and love the many fair spots by which his home was surrounded and of which he often spoke most affectionately. William Wordsworth, generally conceded the English poet par excellence of external nature, stated aptly that "the child is father of the man"; and time and time again has Doctor Warren been known to relish genuine relief from the cares of heavy responsibility by reverting to the happy recollection of the golden days of his youth spent in "Old Monroe," when he was often wont to recount with astonishing accuracy the history and intimate ramifications of numerous large families native to the neighborhood of his home.

After attending Randolph-Macon College, at Ashland, Virginia, for a while, Doctor Warren was forced by financial pressure to return to Union, where he laid the foundation for his study of medicine through the practical instruction of work in a drug store. Upon reaching his majority, he entered the College of Physicians and Surgeons, Baltimore, Maryland, from whence he graduated, following a course of two years, with full honors in 1885, and not long after located at Walker, Missouri, for the practice of his profession.

Doctor Warren first came to Montana during the fall of 1890, and was immediately associated as a resident staff physician at the Montana State Hospital for the Insane, at Warm Springs, Deer Lodge County. The next year (1891) he suffered a severe illness; but was nursed to recovery by Mrs. Charles S. Mussigbrod, wife of one of the two partners in the well-known Montana pioneer firm of Mitchell & Mussigbrod. He remained at Warm Springs for some five years, after which time he left for the East, for the purpose of taking post-graduate courses of study in medicine. However, instead of returning to Montana thereafter, Doctor Warren went, first, to Springfield, Missouri, where he fell ill again; then, in turn, to St. Louis and Kansas City; and, later, to Phoenix, Arizona. At the urgent solicitation of the management, Doctor Warren was prevailed upon to accept the position of joint-physician at Warm Springs, together with Doctor Sharen, during the absence in Germany of Doctor Charles S. Mussigbrod, and came back to Montana for such purpose accordingly. This was in 1896. In 1897 he became head physician—an office which soon resulted itself into that of superintendent, which was held by him continuously until the spring of 1907.

At the time Doctor Warren assumed control of the administration of affairs at Warm Springs, the asylum itself was, comparatively speaking, a small one; yet it carried with it many problems requiring a nice judgment, the attributes of business capability, as well as those of mere professional capacity, and a certain element of responsibility as executive in keeping with the charge of a rapidly growing and important quasi-public institution. How well he arose to the demands of the situation, in its ever-changing and enlarging phases; how he met the exactions of the occasion; and how he achieved high distinction by his signal success, can no more than be lightly touched upon in these few pages, although well worthy of a more fitting estimate and eulogy.

It must be remembered that the decade dating from 1897 to 1907 unquestionably represents the principal formative period of Montana's history, from the standpoint of both rapid growth in native wealth and population, as also in polity, and witnessed the rapid adaptation of new methods to old ways. This condition required, at one and the same time, firmness, strength, patience, and often great moral courage—characteristic forces which developed in the personality of Doctor Warren in proud

response to the constant calls made upon him. In addition to his professional and executive duties, he was necessitated in also managing the large landed estates of the firm of Mitchell & Mussigbrod, while creating the means requisite and incidental to the limited advantages afforded by his surroundings. At the same time it was incumbent upon Doctor Warren to fulfil his *ex officio* position in the governing council of our state, a province to which he addressed himself most becomingly. He was also a managing agent of Mitchell and Mussigbrod and an exemplary citizen. His was a unique and many sided position, in which a man of less fine fiber would soon have found himself far beyond his depth; yet Doctor Warren maintained a command of affairs, what with a display of efficient capability and perseverance, in entire accord with his innate dignity and consummate tact.

During his residence at Warm Springs, Doctor Warren never allowed himself to be led into anything approaching compromise; nor did his honor suffer the slightest taint else suspicion of question at a time when only the exceptional man of more than passing prominence, as well in private as in public life, escaped the distressing shadow emanating from the general demoralization incident to the bitter partisan political discord and private personal strife which commonly obtained throughout Montana during the later nineties, and which existed in a particularly flagrant and equally rife form in that part of Montana wherein Doctor Warren's residence was situated. As it was, and despite the deplorable chaotic conditions mentioned, Doctor Warren was of such high tone that he was immune from a contemptuous calumny which brought ruin to many an otherwise unblemished reputation, and positive disaster to more than one fair-promising career, even as he was free from aspersion of any sort. His reputation and character were one and the same, merely because he did not know how to dissemble, any more than had he need to pose. His moral habit and progress through life was as an open book, that all might read who ran, whereon was writ the satisfaction of an easy conscience through a knowledge of all duty fully performed and a work with will well done.

Doctor Warren was returned as a Democratic member from Deer Lodge County to the Lower House of the Montana Legislature, and served acceptably through the session of 1899, incidentally one of the most

comprehensively constructive sessions of those held; but he would not seek re-election to another term. Indeed, though an ardent Democrat and somewhat of a partisan partyman, he did not seek and preferred not to hold political office of any kind. He was persuaded, on more than one occasion, in the interest of party harmony, to accept the chairmanship of the Deer Lodge County Democratic Central Committee, and was given the refusal of the nomination for State Senator from his county, and was once prominently mentioned as well as seriously considered as a candidate for Governor; but the wire-pulling and insincerity of the political "game" were not to his liking, and altogether distasteful to him in its personal application. However, he was well versed in the history and believed implicitly in the principles of his party; and, like most men born in Virginia, was a conservative in the real meaning of the term—holding that healthy progress spells true conservatism. Doctor Warren was an unflinching free trader in all save a slight tariff on luxuries complementary to an internal revenue for the purposes of proper government, a staunch bi-metallist and unequivocal advocate of greenback fiat money as opposed to the national banking system, an opponent of imperialistic federal control and acquisition of foreign colonies, and a defiant anti-trust champion. In a word, Doctor Warren was a Democrat by principle rather than for selfish reason, and sought the greatest good for the greatest number as the way to civic welfare, very philosophically believing that the Democratic party was the proper medium for the accomplishment of the only species of utopia possible upon this mundane sphere. And, if anything more than another, Doctor Warren detested that creature; so often met with in the hill country of the West, the renegade Southerner. He could not abide the sycophant in any form, neither tolerate the hypocrite, in consequence of which he always attributed some contemptuous hidden motive of ulterior sort to the figure who sought to further his own selfish ends and escape his very personal identity by damning the mother who bore him and the soil from which he sprang. Doctor Warren was not an apologist in any smallest meaning of the word, because he had nothing to either excuse in his personal conduct or explain away: he was proud of his land, and of his people, and of his politics, and of his God; and he feared not to acknowledge his loyalty to them, neither his love for his fellow man, as demonstrated in his daily acts of modest kindness.



From the time of choosing medicine as his vocation, Doctor Warren applied himself both assiduously and unremittingly to his profession; so that it was not a long while ere he was an acknowledged authority on his specialty as an alienist, and admittedly one of the leading physicians of both his state and of the Rocky Mountain West. He ever took a lively pride in his professional calling, and always sought to guard its ethics. And it goes without saying that he was scrupulous at all times to a jealous degree where the etiquette of his profession was involved. The Montana Medical Society made him its president in 1906.

On June 29, 1901, Doctor Warren married Miss Katharine Kohrs, daughter of Hon. Conrad Kohrs, of Deer Lodge and Helena, Montana, herself a native of Montana's near oldest town as was her father, one of our state's pioneer cattle men. His domestic life was one of perfect concord. He loved his home and family, finding therein a restful peace and quietness long denied him, and an opportunity for the exercise of that charming, informal, whole-souled-and-hearted hospitality, which is so much an integral part of every true Virginian. In his home life Doctor Warren revelled as only a good man can. All the gentle sweetness of his nature, until then rather ill-concealed than latent, was allowed free play and became attuned to a more harmonious tenderness. His family constituted his hope, and pride, and joyous pleasure multiplied. Too bad is it that the Mandate of Duty called him far away just as the cup of his happiness was being filled by a wife and children ever appreciative of his affection and eager to respond to his love with their devotion.

In the spring of 1907 Doctor Warren resigned as superintendent at Warm Springs, being succeeded by Doctor J. M. Scanland, and removed to Butte, that he might become chief of staff of physicians and managing director of St. James Hospital. He also attended his own private office in the Hennessy Building, and acted as physician for the Northern Pacific and Chicago, Milwaukee and St. Paul Railway Companies, being meanwhile highly esteemed as an alienist and much sought after as such.

As the fall of 1907 approached, Doctor Warren, who had spoken of himself quite often as a sick man, began to fail very rapidly. For a number of years previously he had been troubled a good deal with muscular rheumatism, for which malady he was constantly treating himself. When urged by those close to him to see specialists and take a much needed rest from active duty, he only shook his head sadly, most evidently knowing

full well that his condition of health was hopelessly fatal and that the ravages of Bright's disease must eventually prove too great a stress upon his heart. On October 19, 1907, Doctor Warren entered into his last long sleep of death, aged but forty-six years, nine months and twenty-one days—still in manhood's prime. Funeral services were held at his residence on the corner of Washington and Granite Streets, Butte, after which he was removed to Helena, where he was interred at Forestvale Cemetery, Helena, Masonic services being conducted at the grave. Thus passed all that was mortal of Doctor Warren.

Doctor Warren was a member of the Phi Kappa Sigma Greek letter college fraternity. He also belonged to the Benevolent and Protective Order of Elks, Valley Chapter, No. 4, F. A. A. M., of Deer Lodge, and Montana Commandery, Knight Templar, of Butte. In politics he was a Democrat, and in religion affiliated with the Presbyterian Church. Like all true Virginians, he was fond of fine horses, and alternately rode and drove the best procurable in the state, always adhering to the use of the English spring saddle affected by Virginia horsemen. Temperate in his regimen, he ate and drank sparingly, his possibly greatest dissipation being an indulgence in a rather frequent cigar. Although greatly relishing fresh fruit, and with a sweet tooth for old ham and white corn meal bread, he had no appetite for either fish or fowl, nor did he care for any species of wild game. One of his prime favored pastimes was a long walk, accompanied by a companion friend, who was likewise addicted to the limited use of a choice morsel of Virginia's famous weed—in the doctor's case B. F. Graveley's Superior, which seemed to tickle his palate as well as flavor his conversation with that inimitable smack of heartiness so peculiarly his own. Otherwise, his diversions were of a very simple kind.

In personal appearance Doctor Warren was a distinguished looking man. He possessed the commanding height of six feet and three inches, while being well proportioned to his some slightly over two hundred pounds weight, and with hands and feet noticeable for their shapely slimness and small size. His physique was erect, although he bent his head a little forward in a meditative else preoccupied sort of way; and, owing in large part to his habit of taking a long swinging step, his carriage was easy and graceful in its very movement notwithstanding his unusual size. Doctor Warren had a face that showed features of decided

force and determination. His close trimmed dark hair and mustache and prominent square jaw denoted a certain decisiveness of character, which was not lacking when needed. His brow was both high and broad, showing the intellect and revealing the benevolence which were well marked in the man. Although wearing glasses and habituated to the intentness of look customary to their use, he had eyes of a clear blue, which gazed at you with the candid questioning innocence of a child. His complexion was florid and his skin slightly inclined to be dark. His countenance was open in its perfect frankness, and his face was pleasing, especially when lighted up with his not infrequent radiant smile.

Doctor Warren was most active both mentally and physically, arising early, retiring late, and susceptible of fatiguing exertions. He was high spirited and quite nervous of temperament, very sensitive in his feelings, and a trifle quick at times under just provocation in giving vent to his righteous wrath. And yet, his innate dignity was such and his personality so commanding that temper did not react to his detriment. Ordinarily, however, he was most gracious in his native urbanity under any and all circumstances, grave else jovial as the case happened to be, rather inclining to the punctilious in his uniform courtesy than either bordering upon the slightest familiarity with even his most intimate friends or brooking a liberty at his own expense. Eminently social of disposition, he enjoyed a game of cards, and one of pool now and then, entering into the spirit of the same with almost boyish zest and enthusiasm; yet his chief entertainment was talking politics and telling stories amid a few good friends, of whom he had many, although admitting few to the privilege of his close intimacy. And those friends just adored him, since they knew that he could never any more forget or fail them than forgive those few enemies whom he hated with inveterate scorn. Friendship with Doctor Warren was a sacred bond, and once given was given in full and eternally regardless of everything. The intonation of his voice, despite his inclination to stammer, was clear, distinctly Virginian, and racy of her soil in its soft, low-pitched, silvery inflexion; and when he broke into his rare laughter and, as was his characteristic habit, slapped his knee, not to join in was simply impossible, so hearty was the irresistible contagion of his merriment.

Generous to a fault; modest and unassuming; gentle, considerate and kind to all sorts and conditions of men; upright and straight-forward in

all his dealings with his fellow man; sympathetic to the weak and afflicted, and patient to their complaints; careful of his horses and dogs; thoughtful of his servants, assistants and friends; delicately scrupulous of the feelings of others, it is no exaggeration to state that Doctor Warren was a very exceptional man both in his unstudied self-denial and lofty attributes as a husband, parent, citizen and friend. We have followed him in his career from the days of his youth when he dwelt in the Alleghanies, in full view of the Bickett's Knob, Caulder's Peak and Peter's Mountain, which he loved so dearly, unto the days of his mature manhood in the Rockies, under the shadow of Mount Haggin, Mount Powell and the Continental Divide, which he also loved. And now, both South and West, these towering mountain hills stand as monuments to the purity which they reflected in his nature, as boy and man, when he lived beneath them, mute witnesses to his successful endeavor and guardians of his terrestrial grave. Right well did he live and gloriously did he die, bequeathing to all who knew him a legacy of good influence and a helpful object lesson agreeable to remember, worthy of emulation and beyond compare.

" There is a grandeur in mountains  
There is a glory in tombs."

NOTE:—The author of the foregoing sketch enjoyed the intimate friendship of Doctor Warren, and shared his love for the mountains both South and West. He offers this memoir as a slight token of his lasting fond affection for Doctor Warren.

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## ACUTE PERFORATING GASTRIC AND DUODENAL ULCER.\* A REPORT OF NINE CASES.

BY WALTER D. WISE, M. D., BALTIMORE.

After so recent and so comprehensive an article as that of Dr. Ellsworth Eliot, Jr.,<sup>1</sup> on this subject, it would not be pertinent or advantageous to again review the literature at this time, because little or nothing could be added. For a full consideration of these grave abdominal conditions, the reader is referred to this article and its bibliography.

\* Reprint from *Surgery, Gynecology and Obstetrics*, September, 1913, pages 377-380.

<sup>1</sup> *Ann. Surg., Phila.*, 1912, April and May.



The object of this paper is to briefly report a series of nine cases of perforating ulcer occurring in the services of Dr. A. C. Harrison, eight of the number being operated upon by him and one by the writer.

These cases are presented at the risk of boring the experienced surgeon in order to bring them to the attention of the general practitioner, who, as a rule, does not have the opportunity of seeing more than an occasional case, and who, indeed, rarely seems to have considered the possibility of this condition occurring.

When we consider the frequent occurrence of gastric and duodenal ulcer, and then consider that according to Musser, perforation occurred in 28.1 per cent of a series of 1800 cases, it makes apparent at once the importance of the subject.

Perforations occur in patients of any period of life, from early infancy to extreme old age, being perhaps most frequent in the third decade, and more common in men than women. Perforation, or rather the symptoms of perforation, may be acute, subacute, or chronic, depending upon the size and location of the ulcer. It is said that acute ulcers perforate more frequently near the cardiac end and chronic ulcers near the pylorus. They are more frequent on the anterior wall, both in the stomach and duodenum, are very rare on the lesser curvature, and practically never occur on the greater curvature. Duodenal perforation is probably more common than gastric, contrary to opinions formerly held. Patients suffering with a perforative gastric or duodenal ulcer usually give a history of some type of previous indigestion. This, however, is not an invariable rule, for at times a perforation occurs without premonitory symptoms sufficient to attract the individual's attention. In practically all cases of the acute variety, the suddenness of the onset is one of the most noteworthy points. Pain, which is usually knifelike and almost unbearable, is perhaps the most constant symptom. Vomiting is not constant, but occurs in the majority of cases, and is perhaps next to pain the most important subjective symptom. It is seen more commonly in duodenal than gastric perforations. Shock, which is usually emphasized in text-books, is the exception rather than the rule, one of our cases (No. 3) having a pulse rate of 64 on admission to the hospital three hours after the perforation.

The objective symptoms—thoracic breathing and rigidity of the abdominal muscles—are most important, and the point of maximum in-

tensity of the muscular resistance is the most reliable guide to the site of the lesion (Eliot). The disappearance of liver dullness is an uncommon symptom and of little value. Dullness in the flanks should be looked for, and if found is a valuable symptom, but not finding it should not have much influence on the diagnosis.

Among the acute abdominal conditions which may be mistaken for ruptured gastric or duodenal perforation are ruptured extra-uterine pregnancy, acute pancreatitis, acute appendicitis, phlegmonous cholecystitis or perforation of the gall-bladder, and pneumonia. In all these conditions except the last, the proper treatment is surgical, so no serious harm can come of mistaking one of them for the other. Because it gives rise so frequently to pain on the right side of the abdomen, ruptured duodenal ulcer is confused with appendicitis more commonly than it is with any other condition. This is because of the course of the fluid from the perforation, which, experiments have shown, first fills the right kidney pouch, then descends along the outer side of the ascending colon to the right iliac region and the pelvis. Both appendicitis and perforative ulcer are usually preceded by a history of indigestion. In both there are onsets of pain with or without vomiting, increased pulse rate, usually temperature and leukocytosis. In perforation, the suddenness of the onset, the epigastric location of the pain, tenderness and rigidity, usually serve to distinguish it.

*Prognosis.*—Petren divides the cases in the series collected by him into those in which the perforation could be sutured and those in which it could not, with a mortality of 46 per cent in the former and 91 in the latter. The total mortality in 135 cases was 60 per cent. Of the sutured cases operated upon in the first twelve hours, there was a mortality of 34 per cent. Of those operated upon in the second twelve hours, the mortality was 48 per cent. Of 18 cases operated upon after twenty-four hours, the mortality was 72 per cent. Of the eleven cases reported in his book on duodenal ulcer, Mr. Moynihan had eight recoveries and three deaths, a mortality of 27 per cent.

*Treatment.*—The treatment is, of course, entirely surgical and should be instituted as soon as possible in all cases. As soon as it is decided to operate, the patient is given a hypodermic of a quarter of a grain of morphia and a hundred and fiftieth of atropine. Everything possible to

shorten the time of the operation is done. The anæsthetic should be as short as possible and administered by the most skilled man available. The abdomen is prepared by painting it with iodine. The incision is made through the right rectus muscle as for a gastro-enterostomy. In a case such as the last one quoted in this paper, where it is difficult to decide whether the condition is due to appendicitis or gastric or duodenal perforation, it is a mistake to make a compromise incision. If the evidence seems in favor of an appendicitis, a gridiron incision should be made, and if the trouble turns out to be in the upper zone, which may be promptly recognized as soon as the abdomen is opened, the lower incision has not consumed much time and furnishes an excellent tract for drainage of the cæcal fossa, which is nearly always desirable and usually imperative. The second incision can then be placed so that it will give a proper exposure of the field desired. The perforation having been located, there arises the question of the best method of treating it. It may be excised or simply inverted by a purse string suture and reinforced by another purse string or interrupted sutures. Excision is probably a waste of time, in that it has been satisfactorily shown that closure has the same ultimate effect. We believe that all cases of perforative duodenal and gastric ulcers should be drained. While it is true that cases promptly operated upon have been closed without resultant trouble, it is not wise to depend upon the harmlessness of the stomach or duodenal contents, particularly if the perforation occurs a short time after a meal, which is quite usually the case, as it is well known that these organs contain numerous organisms at this period. While there is a great deal to be said on both sides, it is probably safer not to follow the suturing of the perforation by a gastro-enterostomy unless the repair of the ulcer diminishes the lumen of the pylorus or duodenum to such an extent as to obviously interfere with the passage of food—a rare occurrence, according to Eliot. He points out that the food is liquid when it reaches the duodenum, and also that the duodenum of a cat or dog will resume its caliber after two-thirds or three-fourths of its lumen has been excised. The chief arguments against performing gastro-enterostomy are the prolongation of the operation and the probable conveyance of infection into fields not already contaminated, including the lesser peritoneal sac.

In our series of nine cases, five were of the duodenum and four of the stomach. The duodenal cases were all of the first portion and on the anterior surface. There were two cases of perforation of the lesser curvature of the stomach, a very unusual percentage. The other two were of the pyloric end, one on the anterior and one on the posterior surface. The ages in seven cases where they were recorded were: 40, 42, 40, 40, 26, 57, 26. Eight of the cases were males and one a female. All of the cases were of the acute variety with a sudden onset. Eight of the nine cases gave a history of dyspepsia. There is no record in the other case.

Patient No. 1 gave a history of dyspeptic symptoms principally characterized by pain for a year before the attack, and for several months had had vomiting and a tender epigastrium.

Patient No. 2. Dyspepsia for many years, occasionally severe.

Patient No. 3. Pain and indigestion for six months. For eight days previous to perforation he vomited everything he ate.

Patient No. 4. For twenty years has had stomach trouble; constantly for two years.

Patient No. 5. Not known.

Patient No. 6. Indigestion with symptoms of heartburn and vomiting for four years.

Patient No. 7. Acute pain after eating for three years; vomited blood several times.

Patient No. 8. Loss of appetite for one month and during that time had pain after eating.

Patient No. 9. Indigestion of two years' duration.

Pain was present in all nine cases, and wherever mentioned is described as violent. The suddenness of this excruciating pain is one of the characteristic symptoms of this calamity.

Vomiting was present in three cases; absent in two; not mentioned in four. One case gave a history of vomiting blood. In the three cases in which vomiting occurred, two were duodenal, one gastric.

Shock was not a marked feature in any case, but a majority of the patients were not seen for several hours after the perforation.

The diagnosis was correctly made in seven cases. Appendicitis was diagnosed once, and in one instance the diagnosis was stated to be either appendicitis or ruptured duodenal ulcer.



Simple suturing of the perforation was done in five instances; suturing and implantation of an omental flap three times. In none of the cases was the ulcer excised. Gastro-enterostomy immediately was done once; as a secondary operation twice; and gastro-gastrostomy as a secondary operation once.

The complications in this series were: Pneumonia, two cases; the cough in one of these cases bursting the incision. Persistent hiccough, one case.

The recovered number seven, the deaths two; giving a mortality of 22 per cent.

CASE 1 (reported from previous paper by Dr. Harrison). Male, aged 40 years. He has been a fairly heavy drinker of alcoholics for a good many years and has been steadily losing weight for a year past. For more than a year he has frequently suffered with pain after eating, and for several months has always had pain and usually vomiting after taking food. He has also had a small area in the epigastrium which was tender on pressure. About one hour after taking a rather full breakfast and while walking on the street, he was suddenly seized with a violent pain in the epigastrium which quickly became general and overwhelmed him. When seen eight hours later he presented a typical picture of some intra-abdominal catastrophe. His features were pinched and his body covered with clammy sweat. Pulse 80 to 100, very irregular, small and hard. His abdomen was distended, very tense, tender, and flat to percussion. Immediate operation revealed the abdomen filled with fluid and partially digested food. A large perforation on the lesser curvature of the stomach immediately at the œsophageal junction was found. This was closed with a double layer of silk sutures and an omental graft. Recovery good. About a year later a gastro-jejunosomy was done for recurrence of the ulcer and hæmorrhage. Final recovery complete.

CASE 2 (reported from previous paper by Dr. Harrison). Male, aged 42, with previous history of dyspepsia for many years, but only occasionally severe. August 18, 1905, at 9 a. m., while at work he was suddenly seized with a violent pain in the upper abdomen, more marked in the right side. Seen August 19, at 12 m. Usual picture of peritonitis. Skin dusky, abdomen tense and tender; general symptoms came on rather slowly; right side more tender and muscles harder than on left. Especially tender in right colonic area. Duodenal perforation diagnosed. Immediate operation. Amount of fluid rather small and limited to right side. Small opening in first portion of duodenum. Closed with a double layer of sutures and omental graft. Recovery uneventful. Subsequent health good.

CASE 3. L. K., male, aged 40. Admitted to Mercy Hospital (Dr. Harrison) January 18, 1909. Has had indigestion and some pain in upper part of the abdomen for the past six months. About eight days ago he became much nauseated and vomited everything he ate, not being able to retain anything at all. This was accompanied by considerable pain. Yesterday morning his pain became very severe and has continued so. About noon to-day he had a violent pain and at that time sent for Dr. Harrison who diagnosed a ruptured duodenal

ulcer and sent him to the hospital. Upon arrival at the hospital examination showed his temperature to be 98, pulse 64, face drawn and pinched; abdomen scaphoid and extremely rigid all over. Palpation revealed tenderness to be general but particularly acute over the appendix region and between umbilicus and right costal margin. Operation was performed at 5.30 p. m. Incision made over duodenal region and abdomen found to contain a moderate amount of fluid. A perforation about the size of an ordinary lead pencil was found on the anterior surface of the first part of the duodenum. This was closed by a purse string of black linen and reinforced by two layers of Lembert sutures. The peritoneum and muscle walls closed with catgut, skin with silver wire subcutaneously. A suprapubic opening was then made and a large rubber tube filled with iodoform gauze was inserted with a free gauze drain above it. The upper incision was protected from the drainage by a rubber tissue covering. Patient was put to bed in the Fowler position and given 500 cc. of salt solution subcutaneously. After awakening from the anæsthetic he was nauseated but did not vomit. He drank water rather freely; complained of pain in his abdomen.

January 19. Patient complained of pain in his abdomen and chest. Examination of his chest showed considerable bronchitis. Abdomen soft.

January 20. Abdomen soft and pressure caused no pain. No vomiting; drinks plenty of water. Complains of great pain in chest. Left lower lobe completely consolidated. Bowels moved freely. Prescribed eggnog: takes it well.

January 21. Looks badly; much air hunger, cyanosed; pain in chest; much expectoration; constant cough of distressing type.

January 22. No change.

January 24. Seems to feel slightly better. Slept well. Wounds dressed. Gauze drains removed. Rubber tube left in.

January 27. Upper wound found to be pulled open and omentum protruding and adherent to dressings. Wound resutured.

January 28. Lungs somewhat clearer. Seems more comfortable.

February 1. After January 28 patient's temperature never rose above 99, but his pulse was high and he grew weaker and weaker, finally dying to-day.

CASE 4. Mrs. C. F. W., aged 40. Admitted to Mercy Hospital (Dr. Harrison) August 20, 1910. For twenty years has suffered more or less constantly with "stomach trouble," having numerous attacks of pain, being at times unable to eat on account of the pain. About twelve years ago lavage and medicinal treatment were tried but without much success. For past two years has had constant indigestion and has lost considerable weight. At 6.30 p. m., August 20, she was taken with a violent pain in the epigastrium and was promptly seen by a neighboring physician who administered a hypodermic of morphia which failed to give relief. Dr. Harrison was then called and diagnosed a perforation of the stomach or duodenum and hurried the patient to the hospital. Operation revealed a stomach divided into two unequal parts connected by an hour-glass contraction, the cardiac pouch being about the size of a large pear, the pyloric side being a little larger in caliber than the duodenum. These two pouches communicated by a canal not larger than the little finger. On the upper edge of the most contracted portion there was a small perforation surrounded by an area of brawny induration, evidently the base of a long standing ulcer. An oblique incision was made from the perforated point into the proximal and distal pouches and the opening closed as in a pyloroplasty,

the ulcer area being inverted. The subsequent course of the case was fairly smooth, and though after her operative recovery she was able to take food with less discomfort than formerly, she continued to have marked gastric disturbance. At a subsequent operation, many dense adhesions were found between the anterior gastric and parietal walls, and after sufficient dissection of these a gastro-gastrostomy was performed after the method of Moynihan. Since this operation the patient's general health has been fairly good, but her digestion is not normal.

CASE 5. This history has unfortunately been lost in some manner. The patient was admitted to St. Joseph's Hospital in the winter of 1910-11 with symptoms of a violent abdominal catastrophe which were thought to be due to appendicitis, but at operation were found to be due to duodenal perforation. A gridiron incision was made first—later a right rectus. He made a good operative recovery but some months later returned with persistent gastric symptoms for which a gastro-jejunostomy was performed. He again made a good operative recovery, but his subsequent history is not known.

CASE 6. S. L., referred by Dr. Savage. Admitted to Mercy Hospital September 7, 1911. Operated upon by Dr. Harrison. Patient was seen September 1 by Dr. Savage and gave a history of indigestion of four years' standing. He suffered with heartburn and vomiting, vomiting ten to fifteen times after eating. Three months previously he had been in a hospital in New York and treated for gastric ulcer. On September 7 he felt badly and to get relief took *five* seidlitz powders at one time. He immediately had a violent pain and upon calling his physician was sent directly to the hospital. With this history the diagnosis was pretty clear. Operation showed the peritoneum to be soiled by the yellow fluid usually found in these cases and a perforation of moderate size was located on the front of the duodenum. This was closed by a purse-string suture of linen reinforced by Lembert-sutures and a gastro-enterostomy was done. The patient went to bed in moderately good condition and never had any signs of abdominal trouble, but developed a severe and persistent hiccough which no medicines or measures would control, dying on the third day apparently from exhaustion.

CASE 7. H. N., aged 26. Admitted to St. Joseph's Hospital September 10, 1911. Operated upon by Dr. Harrison. For over three years patient has had acute pains in epigastrium which would come on about a half hour after eating. He has had some trouble with gaseous eructations and several times has vomited blood. At times he has passed blood in his stools. He has had a good appetite but did not eat on account of the distress caused by food. For the past two or three days he has felt quite ill but has continued at work. This afternoon he felt a severe pain in his abdomen, which so rapidly grew worse that he had to be taken home from his work. He was then sent to the hospital and on admission had all the symptoms of peritonitis. He was infused with 500 cc. of salt solution and immediately operated upon. When the peritoneal cavity was opened a large quantity of fluid escaped. The stomach was inspected and immediately at the pylorus on the posterior surface a small indurated area existed, the center of which had perforated. The perforation was closed by a purse-string suture of linen and further strengthened by a second of the same kind. Four cigarette drains were inserted, thoroughly draining this area. A counter opening (McBurney) was made over the appendix and through this three cigarette drains were inserted.



September 28. Drains have been gradually loosened at each dressing; last drain removed to-day. Patient is eating solid food without any discomfort. For first few days he complained of a burning pain in the stomach which was relieved by small doses of sodium bicarbonate.

October 18. Patient eating all foods without trouble. Wounds entirely healed. Left hospital to-day.

CASE 8. L. S., aged 57. Admitted to Mercy Hospital (Dr. Harrison) March 30, 1912. Patient never had any digestive disturbance until a month ago when he lost appetite and noticed pain in his stomach after eating. Says it seemed as though the food would not pass through his stomach as it should. Had no vomiting. Bowels normal. Passed no blood that he knows of. On March 30, at 4.30 p. m., he noticed a pain in his stomach, but took a little whiskey and kept on at work. At 7 p. m. he had to stop work and sit down. At 7.30 he had such a severe pain he fell to the floor. He was brought to the hospital in an ambulance and operated on at 11 p. m. A perforation was found just to the stomach side of the pylorus. It was closed by a purse-string and two Lembert-sutures. Drainage at the site of the ulcer and through to right-sided gridiron counter-opening. His temperature never rose above 100.4° and was normal after the first week. He was discharged April 27.

CASE 9. G. T., aged 26. Admitted to Mercy Hospital June 2, 1912. (Operated upon by the writer.) He had had indigestion for about two years but gave no history of vomiting or hæmatemesis. At 6.45 p. m. on the day of admission, immediately after eating his supper, he was seized with a violent pain. He was not seen, however, by his family physician, Dr. B. McCleary, until 10 p. m. Upon his arrival at the hospital, he presented all the appearances of some intra-abdominal catastrophe and immediate operation was proceeded with. He was complaining of great pain in the abdomen and made an outcry upon the gentlest palpation. The abdomen was very rigid, apparently more so in the upper zone. He had no vomiting. His temperature was 98.8°; pulse 128, respiration 36, and though it was surmised and stated that a duodenal perforation was the most probable condition, this was not entirely clear, and it seemed wise to make a compromise incision so that all parts of the abdomen could be inspected for diagnostic purposes. Upon opening the abdomen a moderate amount of free fluid was encountered. The appendix was inspected and at first was thought to account for the trouble; but upon freeing it, it was seen that this was not the case. The stomach and duodenum were then exposed and when this area was invaded considerably more free fluid was found. On the front of the first part of the duodenum there was a perforation about the size of a small lead pencil. This was closed by a purse-string of linen, reinforced by Lembert-sutures and a piece of omentum which was at hand was sewn over the ulcer site. The lumen of the duodenum did not seem to be encroached upon to any serious extent by the repair. Cigarette drains were placed in the duodenal and right iliac regions. The patient's pulse remained fast for several days and on the third day he developed a broncho-pneumonia, but held his own very well and gradually improved. The wound broke down quite a good deal, making his convalescence slow, but on July 27 he was discharged perfectly well and able to eat regular diet.



## Correspondence.

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GRIFFITHSVILLE, W. VA., August 9, 1913.

DR. CHAS. E. BRACK, 500 E. 20th St., Baltimore, Md.

*Dear Dr. Brack.*—Enclosed please find check for \$2.00 to pay for two years subscription to the ALUMNI JOURNAL.

I look forward to the coming of the JOURNAL with a great deal of pleasure because there is always something in it that brings to mind some of the men on the faculty and students who were dear friends to me.

I want to come back before many years and look the place over again. I hear you are doing great things in the line of improving P. & S.

I am located in the mountains of Lincoln County, W. Va., doing a country practice. The work is pleasant, plenty and hard. I am getting my share, thanks to the school that taught me.

Best regards to yourself, the entire faculty and students.

Sincerely,

A. W. ADKINS, '12.

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ELIZABETH, N. J.

*Dear Doctor.*—I am doing nicely, have been city physician of this city for the past four years and was elected coroner last fall. Am on the staff of our three hospitals here and having a very fine practise, last and not least married, have two children, one a boy five weeks old whom I named William Lockwood Higgins, in honor of our new dean, whom I considered a dear friend of mine. Hope you are well and enjoying the best of health and spirits. Expect some future date to be in Baltimore.

Sincerely yours,

T. F. HIGGINS, M. D.

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BIRCH RIVER, W. VA.

DR. WM. S. GARDNER, Baltimore, Md.

*Dear Doctor.*—I am here now practicing my profession and like it very much, and am having very good success so far.

I successfully passed my State Board Examination in this state in July and received my certificate to-day. Jackson was also successful. Hope all of the P. & S. boys will do likewise and put the P. & S. at the head of the class.

Your old pupil,

HUGH DUNN.

WILLIAM S. GARDNER, M. D., EDITOR,  
6 W. Preston Street.

JOHN RUHRÄH, M. D., ASSOCIATE EDITOR,  
Algonquin Apartments.

CHAS. EMIL BRACK, M. D., BUSINESS MANAGER,  
500 E. Twentieth St.

# THE JOURNAL

## OF THE ALUMNI ASSOCIATION

OF THE

### COLLEGE OF PHYSICIANS AND SURGEONS,

### BALTIMORE.

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#### DR. SAMUEL T. DARLING TO THE FRONT.

It will please every alumnus of the College to know the work of Dr. S. T. Darling who, for a number of years, has been in charge of the pathological work in the Canal Zone and who has contributed a very large number of original articles dealing with his discoveries. Dr. Darling is now regarded as one of the foremost authorities on tropical diseases and he has recently been chosen as one of a commission of three to go to South Africa to study the diseases affecting the miners of the Rand mines. In this connection we quote an editorial which appeared in the *New York Evening Post* on October 15:

#### THE WAR AGAINST DISEASE.

One event which marked the virtual completion of our task at Panama received but little attention in the press. On Monday, Col. William C. Gorgas left the isthmus for New York, accompanied by two of his fellow-workers, of whom one was Dr. S. T. Darling, bacteriologist at Ancon Hospital. It is now a commonplace that the work of Col. Gorgas made the work of Col. Goethals possible. Before Culebra could be conquered, yellow fever and malaria had to be overthrown. The task was accomplished with Col. Gorgas as commander-in-chief of the army of sanitation in the field and Dr. Darling as the general staff in the bacteriological laboratory. Their departure from Panama was hastened by the fact that for the good as for the wicked in this world there is no rest. The summons had come from South Africa, where the miners of the Rand, numbering an army of workers greater than that assembled at Panama, have been the victims of the pneumonia scourge and other endemic diseases. The authorities at Johannesburg found it natural to turn for help to Col. Gorgas in his capacity as consulting specialist to sick regions of the earth. Yellow fever has become a "historic disease" at Panama, no endemic case having occurred since 1906. Malarial fever has been reduced from 1200 cases per thousand of the population in 1906—an average of more than one

case for each person—to 81 per thousand in 1912. The attention of the world will now be fixed upon Johannesburg.

The special conditions which will confront Col. Gorgas on the Rand are different from those he has had to deal with in Cuba and Panama. To the layman there can be no similarity between Colón, virtually at sea level, with a maximum summer temperature of 100 degrees and an annual rainfall of 120 inches, and Johannesburg, lying nearly 6000 feet high, with a bracing winter climate and a rainfall of 26 inches. But malaria is no respecter of altitudes. To-day we know that the disease is not due to any mysterious "miasma" rising from moist soils, but is the result of parasitic infection. We have fallen into the habit of speaking of tropical diseases, as if the tropics alone were the home of micro-organisms fatal to human life. But that is simply because the white man is comparatively new to the tropics. The maladies which the white man encounters in his work of subjecting the new areas of the globe impress themselves on his attention more dramatically than the endemic plagues from which he suffers at home in the temperate zone. But it is the special glory of the new science of medicine, a science and art so frequently subjected to contemptuous criticism, that it has been pressing ever nearer to something like a unitary cause for human disease. Every year, almost, adds to the list of human ailments traceable to bacterial infection.

The new bacteriology is thus concerned not only with such tropic and sub-tropic scourges as cholera, the bubonic plague, yellow fever, and the sleeping sickness, but with those universal ravagers, tuberculosis, pneumonia, typhoid fever, and sexual disease. Tuberculosis kills more people in the United States than any other single cause. Close behind it comes pneumonia. The latest researches in cancer point to a bacterial origin. Unfortunately, in respect to tuberculosis and pneumonia, while the problem of causation has been solved, the remedy has not yet been forthcoming, though, judging by all precedent, the hope of humanity is justified that, once the cause has been ascertained, the remedy is bound to follow in the course of time. What has been accomplished with regard to yellow fever, malarial fever, diphtheria, and sexual disease, and what is on the point of being established with regard to typhoid fever, the not-distant future may see accomplished with respect to tuberculosis, pneumonia, and cancer. The army of research is mobilized in the laboratories of the world. Its work is carried on in comparative obscurity until the dazzling result is given to the world. Compared with this vast labor for the promotion of human happiness, how pitiful seem many of the "social" problems and issues that thunder so loudly in the headlines!

With social progress in its truest and broadest sense the achievements of the new medicine are more than in accord; they are one of the manifestations of that spirit. There is nothing fantastic in the notion that the people of New York or of London may some day be stirred by the idea that the prevalence of tuberculosis is an inimical to the "work" that goes on every day in the factories and offices of New York and London as malaria, yellow fever, and pneumonia are inimical to the work of building a Panama Canal or digging gold from the reefs of the Rand. Then we might call a Gorgas to the task, give him as free a hand as he had at Panama, and see what medical science, even in its present state, can do for the "sanitation" of the East Side or of Shoreditch. The results of such a campaign against tuberculosis, carried on, not as at present, by "education" largely, but as a definite, strategic campaign with military discipline and thoroughness, might show as rich results for humanity as the completion of the Panama Canal.

## Obituary.

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DR. JAMES R. TAYLOR, '81, died at his home in Marietta, Ohio, about June 27, aged 63.

DR. JULIUS L. SCHAUER, '91, formerly of Milwaukee, died in Chula Vista, Cal., August 26, aged 48.

DR. GEORGE L. LEE, '82, died at his home in Center Hall, Pa., August 7, from carcinoma of the liver, aged 60.

DR. WILSON A. LONG, '82, of Frederick, a member of the Medical and Chirurgical Faculty of Maryland, died in St. Agnes' Hospital, Baltimore, November 7, from pneumonia.

DR. LINDSAY P. O'NEAL, '65, surgeon of volunteers during the Civil War, for several terms a member of the common council of Mechanicsburg, Pa., died at his home, September 18, aged 74.

DR. ISAAC NEWTON BOYD, '80, for seven years thereafter a teacher in the York Haven School and for twenty years a practitioner of Goldsboro, Pa., died at his home, August 21, from heart disease, aged 60.

DR. WILLIAM ERNEST MILLER, '92, a Fellow of the American Medical Association, a well-known practitioner of northwestern Baltimore, died in the Franklin Square Hospital in that city, November 23, from cerebral hemorrhage, aged 43.

DR. WILLIAM A. JORDAN, '73, one of the founders of St. Francis Hospital, Wichita, Kan., and later a member of the staff of the Wichita Hospital, for five years a physician of Sedgwick County, died at his home, August 19, from heart disease, aged 67.

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## Personal Notes.

DR. W. L. SHEAHAN, '12, is house physician in the hospital of St. Raphael, New Haven, Conn.

DR. WM. LLOYD THOMPSON, '13, was married to Miss Hazel Level Reeves on July 22 at Fond du Lac, Wisconsin.



DR. JOHN O. McREYNOLDS, '91, is first vice-president of the American Academy of Ophthalmology and Oto-Laryngology, Dallas, Texas.

At a recent meeting of the Augusta County, Va., Medical Association, DR. T. M. PARKINS, '94, was elected president and DR. R. SUMPTER GRIFFITH, '86, was elected treasurer.

DR. SPENCER M. FREE, '80, was chairman of the Committee on Scientific Program of the joint meeting of the railroad surgeons of the Pennsylvania system that met recently in Atlantic City.

At this meeting DR. A. W. COLCORD, '93, Clairton, Pa., was elected secretary for the Association of Surgeons of the lines east.

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### Correspondence.

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CRESWELL, N. C., June 4, 1913.

DR. CHAS. EMIL BRACK, Baltimore, Md.

*Dear Dr. Brack.*—Enclosed you will find my check for \$2.00 for subscription to the ALUMNI for 1912 and 1913. I always enjoy reading the same, in preference to other journals. I hope to be with you a short while this fall. With best wishes for you and yours, and dear old P. & S., I am,

Sincerely yours,

J. L. HASSELL, '86.

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### Book Review.

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Book on the Physician Himself, by Dr. D. W. Cathell, 12th and final edition. The first edition of this book appeared in 1882 and has been elaborated from time to time since then.

The book is an essay on the lesser or personal side of the physician and a most valuable guide to the recent graduate as well as the older practitioner.

No one can read this book without deriving that benefit which one obtains from the advice of one who in the fulness of his own experience and in a fatherly way directs us in the relations with our fellow practitioner, our patients, and the general public.

Professor William H. Welch, of Johns Hopkins Medical School, says of this book: "It handles judiciously and always in the spirit of high professional honor many topics of interest and importance to the young physician. The book cannot fail to do good."

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THE foregoing is a simple statement of fact. Seven words are sufficient to express it. But back of these words are *years of toil and study*. Back of these words are *hundreds of experiments*—fruitless for the most part, but yielding in the end the long-sought secret.

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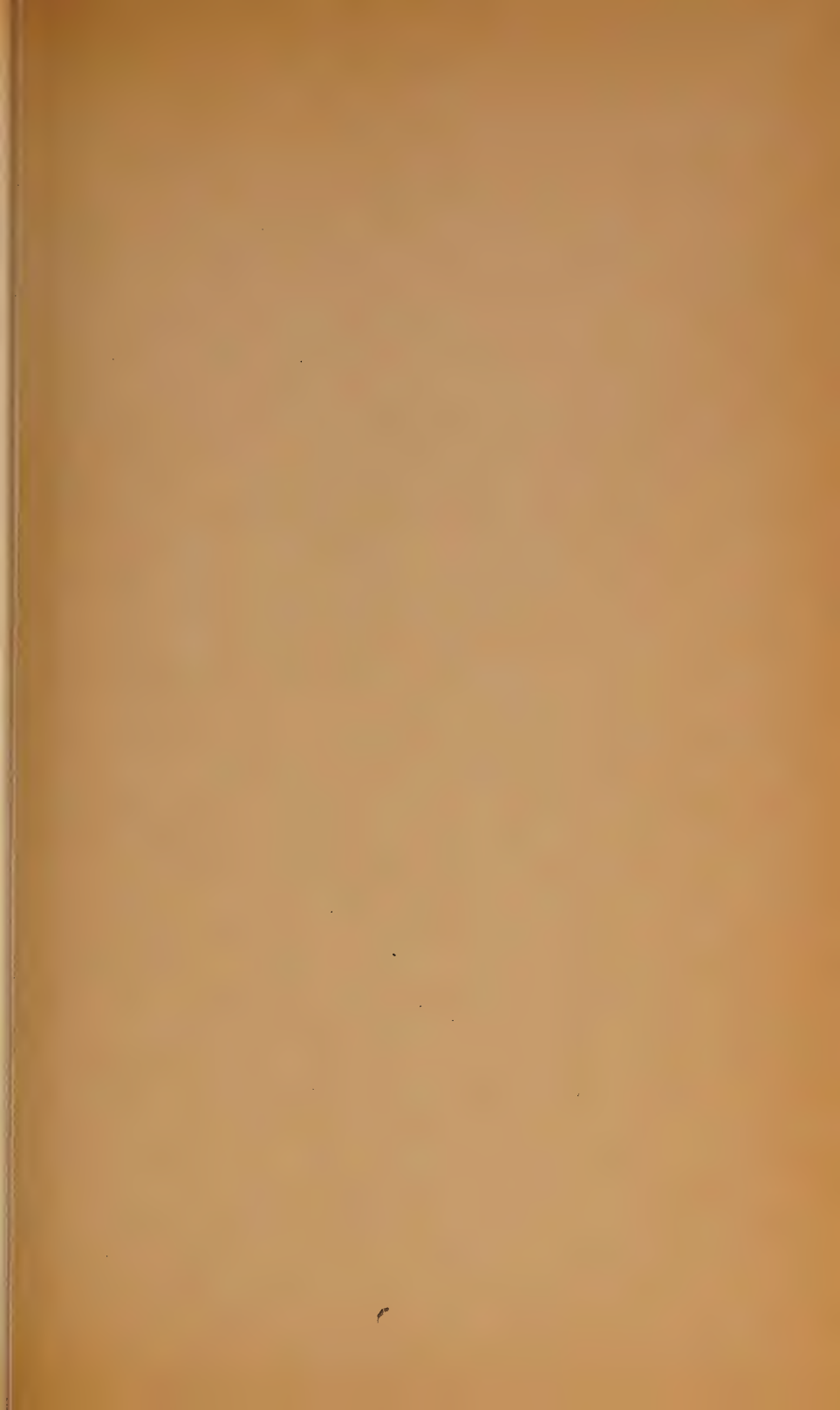
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29. American Medical Association Journal.
30. Medical Record.
31. New York Medical Journal.
32. Institute Quarterly.
33. Southern Medical Journal.
34. Ophthalmoscope.
35. Zerschrift Urologie.
36. Journal of Obstetrics and Gynecology of the British Empire.
37. Dominion Medical Journal.
38. Old Dominion Monthly.
39. The Boston Medical and Surgical Journal.
40. Journal of Alumni Association of P. & S.
41. Journal of Physiology.





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OF THE

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BALTIMORE

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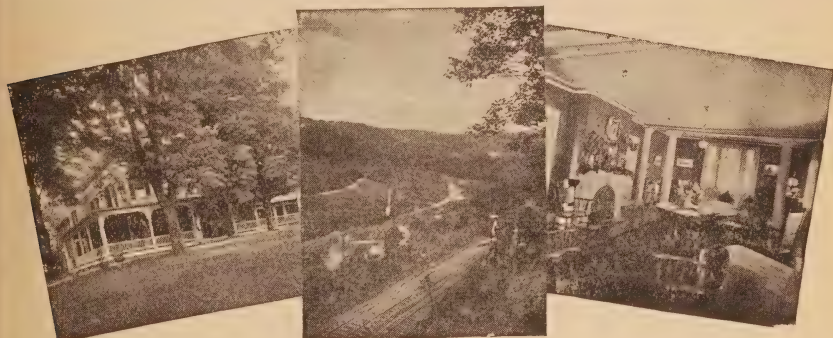
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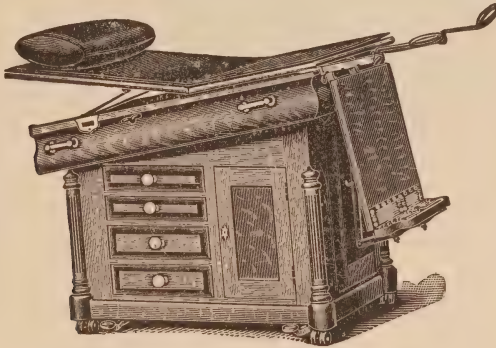
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#### FIBROIDS AND PREGNANCY—THREE CASES.

By DR. WILLIAM S. GARDNER, '85,  
*Gynecologist to Mercy Hospital, Baltimore.*

The incidence of pregnancy and uterine fibromyomata is not rare, but in the vast majority of the cases the tumor is in the upper part of the uterus and is subperitoneal. Fibroids in this location, unless very large, have little or no influence on either pregnancy or labor. When, however, the growth is from the lower segment of the body or from the cervix the condition becomes a serious menace both to the mother and to the child.

An absolute essential to the proper management of these cases is the early recognition of the condition so that all complications may be anticipated and prepared for.

Occasionally a fibroid develops in such a position and becomes of such size as to make it at least highly improbable, if not actually impossible, for the pregnancy to go to full term. When this occurs it is the duty of the attendant to act first and by removing the tumor give the pregnancy its best chance for development and maturity. This variety is illustrated by Case A.

Case A, 1190, was admitted to Mercy Hospital January 30, 1908, aged 38. She has had two children, the last one nine years ago. The last menstrual period was November 25, 1907. Since the last pregnancy, nine years ago, the flow has been regular but scanty, continuing only one day. There was some pain for one day. Bowels constipated, urination normal.

She first noticed a lump in the lower abdomen three years ago. It apparently did not increase in size and gave very little discomfort, except when she was much on her feet. During the past two months the growth has increased in size rapidly, and she has been greatly annoyed by pulsations in it.

On physical examination the heart and lungs were found normal. The abdomen was somewhat distended with a distinct protuberance below the



umbilicus. There was dullness on percussion from the umbilicus to the pubis. A large, hard, movable mass could be felt filling up the lower abdomen. By the vagina the cervix was found turned upward toward the symphysis; the tumor was attached to the uterus anteriorly; beneath the tumor, lying in the hollow of the sacrum, was the enlarged, cystic, pregnant uterus.

Diagnosis: Retroverted, pregnant uterus complicated by a large fibroid.

The first question that came up was: Can this woman, unassisted, go to full term? This was answered in the negative, because it seemed entirely impossible to conceive of this tumor, which was rapidly enlarging and already reaching the umbilicus, being pushed high enough and far enough forward to allow the retroverted uterus to escape from beneath the promontory of the sacrum and developed in the abdomen. In my judgment the immediate removal of the tumor was less hazardous to both the mother and the child than anything that might be hoped for from delay. Consequently the patient was advised to have an operation done at once for the removal of the fibroid. She was told that the operation might produce a miscarriage; but that on the other hand the probability of going to full term in her present condition was practically nil.

Operation, February 3, 1908. The abdomen was opened in the median line below the umbilicus. The tumor had the peritoneum stretched loosely over it in such a manner that the size of the attachment to the uterus could not be seen. After the peritoneum was stripped off a very short but relatively narrow pedicle was seen connecting the tumor with the uterus near the junction of the body with the cervix. The pedicle was cut through and the hemorrhage from it controlled by a number of catgut mattress sutures. The peritoneum was brought together over the stump, the uterus raised to the proper position and the abdomen closed.

The convalescence from the operation was uneventful. She left the hospital February 25.

In August, 1908, her physician wrote me: "Mrs. M. gave birth to a nine-pound boy July 27. It was an easy and normal birth; both mother and child are doing splendidly."

The tumor removed was an ovoid fibromyoma, measuring fifteen by sixteen centimeters.

When a fibroid is in such a position that it absolutely obstructs the pelvic canal it may still be where it does not interfere with the development of the pregnant uterus. When a case of this kind has gone to full term it is folly to allow the woman to become exhausted in labor by efforts that can result in nothing but damage. And under the same conditions attempts to use forceps, version and all such aids as are useful in moderate dystocia are contraindicated and far more fruitful of harm than of good. The conservative operation here is Caesarean section. This type of cases is illustrated by Case B.

Case B, 4590, aged 30, was admitted to Mercy Hospital February 24, 1911. The present was her first pregnancy. The last menstrual period was May 19, 1910. Before that her periods had been regular and the flow continued seven or

eight days. She had been under observation for several months, and her general health was excellent.

Some time in the latter part of the summer of 1910 I was asked by her physician to see her with him. He told me that she was pregnant and that she had a fibroid that almost filled the true pelvis. My own examination only confirmed this diagnosis. It was clear that delivery by the ordinary route would not be possible. We decided at that time to deliver her by Caesarean section when the full term of pregnancy would be complete, and which we estimated would be February 25, 1911.

She entered the hospital February 24 and the operation was set for 9 o'clock the next morning. Early on the following morning labor pains set in and the bag of waters ruptured. Immediate preparation for operation was made and carried out two hours ahead of the scheduled time.

The abdomen was opened, the uterus incised and the child and placenta removed. A hysterectomy was then done in just the same manner as if a Caesarean section had not been made.

The child weighed nine pounds, and both it and the mother left the hospital in excellent condition March 18.

This case differed from the one first related in that in this instance the developing uterine body was in the abdomen above the fibroid and there was nothing to obstruct its development. The size and position of the tumor, however, absolutely obstructed the birth canal and made a suprapubic delivery necessary. In the first case the uterus was retroverted and the large fibroid was on top of it, jamming it deeper into the pelvis. It was not in a position to interfere with delivery, but was in a position to almost certainly interrupt the pregnancy.

The third case differs from both the others. In this instance the fibroid was located in the lower segment of the posterior uterine wall, and on account of its position gave rise to much apprehension, but no positive trouble. It belongs to the borderline cases. One that only a slight variation of size or position of the tumor might call for as radical treatment as Case B.

Case C, 1823. About the year 1900 this patient had a ventrosuspension done for a retrodisplacement of the uterus.

I saw her for the first time September 2, 1910. She was then aged 35, married, and had never been pregnant. The appetite was good; the bowels constipated; micturition frequent, but not painful.

The last menstrual period occurred August 16; twenty-eight-day periods; the flow continues from seven to ten days very profusely; no dysmenorrhœa.

One week before each menstrual period there is a severe, recurrent pain in the pelvis, which lasts for five or ten minutes. There has been much backache for the past week. She becomes very nervous when lying down, and cannot lie upon her back.

On physical examination the uterus was found retroverted and very much enlarged.

She entered Mercy Hospital September 8, and the following day the abdomen was opened and a submucous fibroid was removed through the anterior uterine wall and a round ligament suspension of the uterus was done. Search was made for other fibroids, but none were detected. From this operation the recovery was uneventful, and she left the hospital September 23, 1910.

In June, 1911, she had an early miscarriage. At this time it was discovered that a small fibroid had developed in the lower posterior segment of the uterus. Its growth had been stimulated by the pregnancy. The patient refused to have the fibroid removed.

In September, 1911, she again became pregnant. The little fibroid, which could not be felt or seen in 1910, having been stimulated in its growth by the first pregnancy, during the progress of the second pregnancy increased in size rapidly. At any time during the first half of the pregnancy the tumor could be palpated easily through the posterior vaginal wall. It was within the true pelvis and was sufficiently large to offer a great obstruction to labor if it remained in that position. Fortunately, as the uterus increased in size the fibroid was raised above the brim of the pelvis. This position of the fibroid was so much more favorable than had been hoped for that we believed that labor could terminate naturally. Being fearful that when the labor began the tumor might be pushed down into the pelvis, she was sent to the hospital just before the completion of the term of pregnancy in order that we could take immediate action for the relief of any complications arising during labor.

She was delivered perfectly normally July 12, 1912.

---

## THE COCK'S-COMB TEST FOR THE ACTIVITY OF ERGOT PREPARATIONS.\*

By ALBERT C. CRAWFORD, M. D., AND JAMES P. CRAWFORD, A. B.,  
STANFORD UNIVERSITY, CALIF.

There can be no question as to the value of biologic tests provided we know for what we are testing; thus, in the case of adrenal glands, in which at least one active principle is known, we can say that preparations of this gland have a blood-pressure-raising activity corresponding to a definite amount of epinephrin. As a rule, the depressor principle in these preparations is believed to be negligible, so that we speak of them as containing so much of the pressor compound, and do not consider their action as a resultant of these two factors. Elliott has asserted that by using a biologic method for testing epinephrin solutions he can assay them to within .01 mg. of their correct strength.

\* From the Laboratory of Pharmacology, Leland Stanford Junior University.

Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the sixty-fourth annual session, held at Minneapolis, June, 1913.

Reprinted from The Journal of the American Medical Association, July 5, 1913, Vol. LXI, pp. 19-23.



In the case of preparations of ergot and of digitalis the question is much more complicated, as these drugs are believed to owe their activity to several constituents, which vary in activity. From ergot, Barger, Carr and Dale, simultaneously with Kraft, have isolated two alkaloids, ergotinin and ergotoxin. The first was found to be physiologically inactive, while the second exerted all the characteristic actions of ergot, that is, solutions of this alkaloid would cause uterine contractions, a rise in blood-pressure and bluing of the cock's comb.

Kraft claimed that while his hydro-ergotinin, afterward found to be identical with ergotoxin, would blue the cock's comb, it failed to produce uterine contractions, save when used in toxic doses, so that according to him the activity of ergot in causing uterine contractions could not be traced to this body. This conclusion was presumably due to the fact that his preparations were tested on a different species of animal from those on which Dale tested ergotoxin. The total amount of alkaloids obtained from ergot is said to vary from 0.05 to 0.2 per cent.

Barger and Dale noted that all the activity of aqueous preparations of ergot could not be explained by the mere presence of ergotoxin and presupposed the existence of some then unknown compound. It was found that this action was due primarily to para-hydroxyphenylethylamin, but that some was due to iso-amylamin and phenylethylamin. Later Barger isolated beta-iminazolyethylamin from a dialyzed ergot preparation. This compound causes marked uterine contractions in the cat's uterus *in situ*. These workers published no quantitative determination of the amount of the amins present in ergot preparations. It is believed that these amins result from decomposition of various amino-acids in ergot, but the question arises as to whether ergotoxin may not really be a compound similar to the polypeptids and yield these amins on decomposition. Mr. W. I. Weaver, one of our students, has made several unsuccessful attempts to obtain beta-iminazolyethylamin from ergotoxin. He has obtained from ergotoxin, however, a coloring-matter apparently identical with the so-called sclererythrin.

Recently Marino-Zuco and Pasquero claimed to have isolated from ergot an active glucosid, claviseptin, but as yet this work has not been repeated by other investigators. It remains to be seen whether or not this glucosid will yield these amins.



The cock's-comb test was introduced as a qualitative means for determining the activity of ergot, as it was believed that the production of uterine contractions and of gangrene were the characteristic features of ergot poisoning but more careful study of such cases shows that gangrene and uterine contractions, at least strong enough to produce abortion, do not occur in all cases of ergot poisoning in man. Again, at the time this test was introduced it was not possible to use the uterus in satisfactory biologic testing; hence, the cock's comb test has been accepted provisionally, mainly because we knew of no other which was practical. Later it was believed to be roughly quantitative. Recently it has been shown that the uterus can be used for testing the action of various drugs. The action of ergot on the blood-pressure has also been proposed as a means of standardizing such preparations. These methods have been discussed in detail, theoretically by Crawford, and tested practically by Goodale, Cronyn and Henderson, and more recently by Edmunds and Hale, and by Haskell and Eckler. Cronyn and Henderson state that the variations are so large as to be serious from a therapeutic aspect (p. 210), and that, when tested on the cat's uterus the activity of ergot preparations "seemed to parallel their action on the blood pressure quantitatively" (p. 208).

Against this view it may be urged that while beta-iminazolyethylamin causes marked contractions of the uterus it lowers the systemic blood-pressure, hence would probably interfere with the blood-pressure test.

Edmunds and Hale say that "the uterine response to ergot seems to run very closely parallel to the action on the cock's comb so that either may be used in ergot assay, and the choice between these for practical purposes would favor the cock's-comb method" (p. 46), but add that "the evidence . . . is against the view that an absolute parallelism exists between the uterine and blood-pressure action of ergot" (p. 43).

At present there seems to be considerable confusion as to the action of ergot on the cock's comb. Small doses cause bluing, which may last for a few hours, and this in some cases is preceded by a temporary whitening, while repeated doses produce gangrene with permanent bluing and histologic changes.

Von Recklinghausen found, in chronic ergot poisoning of cocks, that the larger arteries of the tips of the comb, but not the veins, were more or less completely filled with hyaline material, while the capillaries,

which were filled with red cells, contained no hyaline substance. The veins also contained no hyalin. These results were corroborated by those of Gruenfeld. From these anatomic changes von Recklinghausen argued that the gangrene was due to a persistent spasm of the small arteries and this view has been accepted almost to the present time. It must be remembered, however, that in cocks thrombi form under a variety of conditions (Krysinski).

In the temporary bluing produced by ergot no histologic changes indicative of gangrene have been found; and it is impossible to see how the red color could return quickly if hyalin had formed. The ordinary bluing of the comb is not identical with gangrene (Krysinski). The cock's comb test seemed satisfactory because we knew that purified ergot preparations would cause a rise in blood-pressure, mainly from vascular constriction and the bluing of the comb, according to von Recklinghausen, was due to vasoconstriction. In reviewing the literature of ergot it was noted that several workers had reported that in deaths in animals from acute experimental ergot-poisoning the only lesions were marked venous dilatation with occasional ecchymoses. It would seem that if arterial constriction was the primary factor there should be more persistent blanching, unless the arterial blood, forced by constricted arteries, was held in dilated veins; that is, unless the venous dilatation was marked and overcame the blanching due to arterial constriction.

We have made a number of attempts to measure the size of the comb during the stage of temporary bluing, but as yet, owing to defects in the oncometer, the results do not warrant any definite conclusions. Bluing of the comb has been seen in poisoning of cocks by cantharidin, a substance which does not raise the blood-pressure in these animals, but which exerts a direct injurious action on the capillary walls. In rabbits repeated injections of ergot solutions are said to cause arterial degeneration.

A solution of one tabloid of ergotoxin (1/100 grain) in 2 cc. of water was slowly injected intravenously into a rooster, and while the blood-pressure rose markedly, even seven minutes after the injection was begun, the comb was still red, although it seemed blanched. Later the comb became blue, but at this time other chemicals had been injected.

In several experiments on cocks we have noted that paraldehyd would

cause bluing of the comb, and for this reason we discarded its use for anesthetizing these animals. Wernich dissected the artery and vein of one part of the rabbit and noted that after the subcutaneous injection of an aqueous extract of ergot the artery was slightly narrower, while the vein dilated. This preparation of Wernich's, however, contained some glycerin, which must be considered in interpreting his results. A preliminary blanching is often reported as preceding the bluing of the comb, hence some arterial constriction may be present. If the bluing of the cock's comb is primarily a vasoconstrictor phenomenon, it would follow that the intravenous injection of epinephrin would produce it, at least, if these vessels are under sympathetic control. But bluing did not immediately follow the intravenous injection of epinephrin into the vein of a white Leghorn rooster, although the experiments of Paton and Watson have shown that epinephrin constricts the peripheral vessels of birds. Bluing did occur, however, after the rise in blood-pressure had begun to subside. Numerous workers have noted that in mammals, following the rise of blood-pressure from epinephrin, there is a marked vascular relaxation, and Erb found venous dilatation in rabbits which had been frequently injected with epinephrin. Theoretically considered, bluing might result from changes in the blood, but for this view there is no experimental evidence. In man, however, gangrene has occurred in carbon monoxid poisoning.

Bluing of the comb from even small doses of ergot would seem to be a feature of intoxication, because severe constitutional symptoms usually accompany it. Perhaps the bluing may be explained as a venous dilatation, but the cause of this venous hyperemia is unknown. Theoretically considered, this may result from active dilatation of the veins, or from venous obstruction, or from weakening of the arterial current, either by arterial relaxation or by cardiac weakening. Apparently the condition seems to resemble that described by Henderson in shock in mammals. The fact that after repeated ergot injections the comb hypertrophies would suggest venous hyperemia (Bier's method.)

It is believed that para-hydroxyphenylethylamin and beta-iminazolyethylamin are the most important of the ergot amins and that the activity of some preparations of ergot is largely due to these compounds, although part is due to ergotoxin, and that only small amounts of iso-amylamin

and phenylethylamin are present in such extracts. If this is true, then the value of the cock's-comb test must depend on whether these amins will produce bluing of the cock's comb, or intensify this action of ergotoxin; but so far as we can learn no such experiments have yet been made with these amino-compounds.

#### HYDROXYPHENYLETHYLAMIN.

Tyramin is said by the manufacturers to be synthetic para-hydroxy-phenylethylamin.

EXPERIMENT 1.—On Oct. 16, 1911, a game-cock (weight 1.2 kg.) was subcutaneously injected with a solution of one "tabloid" (5 mg.) of tyramin (Burroughs, Wellcome & Co.) and, though the animal was kept under observation for two hours, there was no bluing of the comb or wattles. Some mucous stools were passed.

On Oct. 19, 1911, the same rooster was injected with a solution of two "tabloids" (10 mg.) of tyramin. This injection was also negative save for the production of diarrhea.

On Oct. 23, 1911, this rooster weighed 1.4 kg. and received subcutaneously a solution of three tabloids (15 mg.) of tyramin. It produced no noticeable effect.

EXPERIMENT 2.—On Oct. 24, 1911, a white Leghorn rooster (weight 1.6 kg.) was injected subcutaneously at 2.19 p. m. with a solution of 5 tabloids of tyramin (25 mg.). At 2.36 p. m. the breathing was apparently deeper. At 3.20 p. m. the comb and wattles seemed normal. The head of the rooster then fell and he seemed sleepy, but still stood on his feet. At 4.00 p. m. he inclined slightly forward as if asleep. At 4.47 p. m. the rooster was very dull and would stay on his side if so placed. The comb and wattles were red and warm. The mouth was closed and apparently there was no dyspnea, the effects of the drug differing in this respect from those of ergotoxin. The animal made no attempt to escape when freed from restraint. At 5.10 p. m. he appeared normal. At no time was there any mucous diarrhea and the color of the comb and of the wattles remained unchanged.

EXPERIMENT 3.—The intravenous injection of 5 mg. and also of 10 mg. of tyramin into an anesthetized rooster (weight 1.5 kg.) caused a distinct rise in blood-pressure without bluing the comb.

#### ISO-AMYLAMIN HYDROCHLORID.

EXPERIMENTS 4, 5, 6 AND 7.—On Oct. 24, 1911, a white Leghorn rooster (weight 2 kg.) was injected subcutaneously with a solution of 50 mg. of iso-amylamin hydrochlorid (Kahlbaum). This animal was kept under observation for one hour, but there were no noticeable effects. A similar negative experiment resulted from the injection of 48 mg. of this salt into a white Leghorn rooster (weight 1.7 kg.). On May 22, 1913, a white Leghorn rooster (weight, 1.9 kg.)



was injected subcutaneously with a solution of 80 mg. iso-amylamin hydrochlorid, but this produced no effect. A similar experiment with 130 mg. also proved negative (weight of rooster 1.7 kg.)

#### ERGOTOXIN.

EXPERIMENT 8.—On Oct. 26, 1912, a white Leghorn rooster (weight 1.7 kg.) received subcutaneously an injection of one tabloid of ergotoxin (Burroughs, Wellcome & Co.) dissolved in water with two drops of 10 per cent solution of sodium hydroxid. Each tabloid was said to contain 1/100 grain of ergotoxin. In one hour there was some slight bluing of the tips of the comb, and the wattles became cooler. There was some diarrhea. About forty-five minutes later the bluing became very faint. This rooster had been injected on October 25 with 48 mg. iso-amylamin hydrochlorid.

EXPERIMENT 9.—On October 25, the game-cock (weight 1.2 kg.) which had been used October 25 for the injection of tyramin received subcutaneously a solution of one tabloid ergotoxin (1/100 grain). One hour later the comb was a trifle bluer, but nothing striking was seen even two hours after the injection.

EXPERIMENT 10.—On October 25, a white Leghorn rooster (weight 1.9 kg.) received subcutaneously a solution of two tabloids of ergotoxin. These tabloids formed a colloidal solution with water, so that the full effect of the ergotoxin could not be expected. In one hour and twenty-six minutes the comb was slightly blue and cool, while the wattles, which before the injection had been red and warm, became cool, although they retained their red color.

EXPERIMENT 11.—On February 14, a white Leghorn rooster was injected with a solution of three tabloids of ergotoxin. One hour and eighteen minutes later there was slight bluing of the tips of the comb, but they became decidedly blue one-half hour later.

EXPERIMENT 12.—On October 30, a white Leghorn rooster (weight 2.1 kg.) was injected subcutaneously with a solution of three tabloids of ergotoxin dissolved with 1 cc. of 80 per cent alcohol. Within fifty-two minutes the wattles and comb became blue and cold. The rooster stood motionless and the mouth was kept closed.

EXPERIMENT 13.—On October 30, a white Leghorn rooster received an injection of a solution of five tabloids of ergotoxin in 1 cc. of 80 per cent alcohol with water. In one and a half hours the comb and wattles became blue and cold. The rooster stood erect and held its mouth open. One hour and three-quarters later the comb was still blue.

Ergotoxin phosphate was bought of Burroughs, Wellcome & Co. and 100 mg. was suspended in 50 cc. of water.

EXPERIMENT 14.—On Aug. 5, 1912, at 3.30 p. m., a white Leghorn rooster (weight 1.6 kg.) was injected subcutaneously with 2.6 cc. of this suspension of ergotoxin phosphate (2 mg. in 1 cc. water). At 4.07 p. m. the comb, which had previously been red and warm, became blue and cold and showed some whitish discoloration. The mouth was held shut. The wattles were blue and cold at 4.35 p. m.; the wattles also blue, and the mouth was open (dyspnea). The rooster was very dull at 5.16 p. m. The blue comb showed white areas, and the wattles were cold and dark. On August 6 at 9 a. m. the comb and wattles were both red, although the comb was cold.

EXPERIMENT 15.—On Aug. 5, 1913, a white Leghorn rooster (weight 1.9 kg.) was injected subcutaneously with 6.4 cc. (12.8 mg.) of the same suspension. The injection was made at 3.37 p. m. At 4.08 p. m. the comb was very blue and cold, but showed white areas. The wattles were bluish. At 4.35 p. m. the bluing was more marked. The rooster then held its mouth open. At 5.17 p. m. the bluing was still marked. Even during the afternoon of the following day the comb and wattles were blue and cool.

EXPERIMENT 16.—On the same date a white Leghorn rooster (weight 1.6 kg.) was injected subcutaneously with 10.7 cc. of the same emulsion (21.4 mg.). In twenty-four minutes the comb became decidedly blue and showed white (blanching) areas. The wattles were cold and blue. Soon the head of the rooster fell forward as if he were too dull, or too sick, to hold it up. The mouth was held open. One hour and thirty-two minutes after the injection the comb became lighter in color, but still remained cold. The following morning most of the bluing had disappeared, although part of the comb was very dark and the wattles were cool.

Edmunds has reported that 2 cc. of certain fluid extracts of ergot have about the same action on the cock's comb as 5 mg. of ergotoxin phosphate.

To see if the presence of tyramin would intensify the action of ergotoxin these compounds were injected simultaneously.

EXPERIMENT 17.—On Aug. 11, 1912, a white Leghorn rooster (weight 1.5 kg.) was injected subcutaneously at 1.50 p. m. with a solution of one tabloid of tyramin (5 mg.) and one of ergotoxin (1/100 grain). At 2.23 p. m. the tips of the comb were slightly blue and cool and the wattles were cool. At 4.38 p. m. the condition was about the same.

EXPERIMENT 18.—At 1.50 p. m. on the same date a rooster (weight 1.6 kg.) was injected subcutaneously with a solution of three tabloids of tyramin and one of ergotoxin. At 2.22 p. m. the tips of the comb were blue and cool. At 2.45 p. m. the comb was bluish and cold while the wattles were cold. At 3.45 p. m. the condition remained about the same, but at 4.38 p. m. the comb was red though cool, and the wattles were red and cool.

#### BETA-IMINAZOLYLETHYLAMIN.

EXPERIMENT 19.—On May 15, 1913, a white Leghorn rooster (weight 1.8 kg.) received subcutaneously at 1.45 p. m. a solution of 8 mg. beta-iminazolyethylamin. In sixteen minutes the comb became blue and cool, while the wattles were red though cool. This bluing of the comb began to disappear at 2.27 p. m. and had practically disappeared at 3.45 p. m.

EXPERIMENT 20.—On the same day a white Leghorn rooster (weight 2 kg.) was injected at 1.52 p. m. with a solution of 16 mg. of beta-iminazolyethylamin. The comb became blue in twelve minutes. This bluing disappeared at 3.26 p. m.

EXPERIMENT 21.—Another rooster (weight 2.4 kg.) was injected with a solution of 12 mg. at 2.10 p. m. In nine minutes the comb and wattles became very blue and cool. At 3.15 p. m. the animal seemed slightly unsteady on his feet. The bluing disappeared at 4 p. m.

EXPERIMENT 22.—The injection of a solution of 4 mg. of this compound produced no effect on a rooster weighing 1.7 kg. In none of these animals was there any dyspnea, or any of the severe constitutional symptoms which result from the injection of ergotoxin, and the bluing which resulted was much more transitory in action and appeared much more quickly.

EXPERIMENT 23.—The intravenous injection of beta-iminazolyethylamin into the rooster (weight 1.5 kg.) which had previously been injected with tyramin caused a marked fall in blood-pressure with bluing of the comb.

EXPERIMENT 24.—On May 24, 1913, a white Leghorn rooster (weight 1.9 kg.) was injected at 10.25 a. m. with a solution of 12 mg. beta-iminazolyethylamin and two tabloids (1/50 grain) of ergotoxin. In four minutes the tips of the comb became blue. At 10.34 a. m. the comb was very blue and the wattles were dark in color and cooler. At 10.51 a. m. the comb was very blue, but the rooster seemed bright and the mouth was kept closed. At 11.24 a. m. the same condition was present. At 1.35 p. m. the comb was very slightly blue and cold, while the wattles were red, though cold.

EXPERIMENT 25.—On the same day at 10.42 a. m. a white Leghorn rooster (weight 1.5 kg.) was injected subcutaneously with a solution of 6 mg. of beta-iminazolyethylamin with one tabloid of ergotoxin (1/100 grain). In five minutes the tips of the comb became slightly bluer and cool. At 10.58 a. m. the comb was bluer and the edges of the wattles were bluing. At 11.24 a. m. the condition was about the same. At 1.35 p. m. the comb and wattles were slightly blue and cold.

Arguing from these experiments we would say that, if the subcutaneous injection of an ergot preparation was followed in five or six minutes by bluing of the comb, without dyspnea, etc., that beta-iminazolyethylamin was probably present.

It is interesting to note that beta-iminazolyethylamin which produces vasodilatation in carnivora and a fall in blood-pressure in cocks, and paraldehyd, which in large doses also dilates the vessels, caused bluing of the comb, while, on the other hand, the vasoconstrictors, such as tyramin, iso-amylamin and epinephrin, did not cause bluing save in the case of epinephrin, when the bluing occurred late, and after the vasoconstriction had begun to subside. Dale has noted that in cats ergotoxin in small doses will stimulate vasomotor nerve endings, while large amounts will paralyze them, but fowls are said to be resistant to this paralytic action, at least, if measured by the vasomotor reversal test.

Perhaps the bluing of the comb by ergotoxin may be due to the presence in it of a chemical nucleus similar to beta-iminazolyethylamin.

Betain and cholin have been found in ergot by various workers, but Rielander has shown that these bodies, unlike ergot, will not produce



local gangrene. We injected subcutaneously 16 mg., and also 20 mg., of cholin hydrochlorid into roosters, but without effect on the comb.

If we accept the view that much of the pressor activity of ergot is due to para-hydroxyphenylethylamin and that this pressor action has therapeutic value and that this amin will produce uterine contractions, then it follows from our experiments that the cock's-comb test cannot be an accurate test for the full physiologic activity of ergot, but it may be of value for determining the presence of ergotoxin or of beta-iminazolyethylamin.

The question to be decided is whether or not we shall standardize for ergotoxin alone. This cannot be fully settled until we know more of the therapeutic value of the ergot constituents, "and in what relative proportions they should occur."

In this country the most popular official preparation of ergot is the fluid extract and this we have tested many times on cocks, but so far as we can remember, bluing never immediately followed the subcutaneous injection of such preparations; hence we would argue that these preparations contained very little, if any, of beta-iminazolyethylamin. It may be noted that beta-iminazolyethylamin was originally obtained from a dialyzed ergot preparation, that is, one which had long been exposed to bacterial changes; whereas the alcohol of the fluid extract would presumably prevent the changes leading to the formation of this compound, so that, for practical purposes, in fluid extract of ergot we probably have to consider only para-hydroxyphenylethylamin and ergotoxin.

Dale and Dixon were unable to produce abortion in pregnant animals by the injection of para-hydroxyphenylamin and Guggenheim reported a similar experience with it in pregnant women; hence unless it acts synergistically and intensifies the uterine action of ergotoxin, we have only the latter to consider and the assay for ergotoxin would be all that we could demand at present.

Some years ago it was shown that in certain ergot preparations all the compounds which caused bluing of the cock's comb could be shaken into alkaline ether (Keller's method) and it was noted that this shaking would cause a rise in blood-pressure. Recently we have found that ergotoxin, tyramin, ergamin and phenylethylamin can be shaken into alkaline ether, but in such a shaking ergotoxin soon took a bluish color, indicating



decomposition, and this may perhaps explain some of the results with the Keller method.

Perhaps later experiments may show that we may be able to reach a satisfactory conclusion as to the full physiologic activity of ergot preparations by determining the nitrogen content of the alkaline-ether shaking, or it may be necessary to make two tests, one chemical and one biologic.

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## PROFESSIONAL SECRECY.

BY ALEXIUS McGLANNAN, M. D.

As an opening sentence let me quote for you from the Oath of Hippocrates. "Whatever, in connection with my professional practice, or not in connection with it, I see or hear in the lives of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret.

"While I continue to keep this Oath inviolate, may it be granted to me to enjoy life and the practice of the art, respected by all men, in all times. But should I trespass and violate this Oath, may the reverse be my lot."

These are the last sentences of the Hippocratic Oath, that solemn vow exacted by the great Master from the neophyte about to enter the study of medicine—the study which Hippocrates esteemed as being "of all the arts the most noble."

The authenticity of this Oath is not disputed and its genuineness is certified by many authorities. It is interesting to note that St. Jerome sanctions the genuineness by quoting from it.

Chronologically, the Oath is equally firm in its position and further proves that in the latter part of the Vth Century, B. C., there existed a rule of conduct for practitioners of medicine founded on the relations of teacher and student bound together in some sort of corporation or guild.

This particular era is one of the memorable epochs in the history of human intellectual development. As cotemporaries Hippocrates had Pericles, the statesman; Aeschylus, Sophocles, Euripides, and Aristophanes the poets; Socrates, the philosopher, and his disciples Plato and Xenophen; Herodotus, the historian; Phidias, the sculptor, and many

others whose names and deeds are indelibly recorded on the scroll of human advancement.

From this noble heritage, therefore, we have our rule of professional secrecy, in whose sanctity repose many of the trials and sorrows of afflicted humanity. Through all the ages this trust has been sought by the sick of mind and body and for the most part the secrecy has been kept inviolate.

From its beginning this rule of sanctity for confidences between the patient and doctor has been preserved through the inheritance of the Hippocratic vow from generation to generation of medical men. Carried on as part of the rules of conduct for their guilds and associations the principle has endured, although the law of the realm did not always recognize professional secrecy.

Professional secrecy is governed by the law of "Privileged Communications," and at common law there was no privilege as to communications between physicians and patient. Therefore this secrecy was entirely a matter of medical discipline until some period after the Independence of the United States. This rule of the common law still prevails where not changed by statute. Such is the present condition in Maryland. However, the disclosure by a physician against the will of the patient of communications from the patient or information concerning the patient acquired by the physician in his professional capacity is very generally forbidden by statute.

The most celebrated example of the application of the law occurred in England about 15 years ago. A distinguished gynecologist treated the wife of a member of his family for an acute venereal infection. The woman at the time was living apart from her husband from whom she expected to obtain a divorce with alimony. Against the will of his patient the doctor told of her venereal disease in such a way that it was admitted as evidence of illicit intercourse. As a result the husband was given a divorce on the ground of adultery, without alimony. The wife then sued the doctor for violation of a privileged communication and claimed damages because this testimony had prevented her receiving alimony. All the parties to the suits were wealthy. In the latter suit the woman recovered \$300,000 damages from the doctor. In this case there was an extraordinary combination of circumstances and one's sympathy goes out to the

doctor. Knowing the woman's adultery it would be difficult to keep silent and permit a close relation to be punished for refusing to continue to live with her as his wife. However, the case shows how rigorously the courts may punish a violation of professional secrecy when this rule of our profession is enacted into the law of the land.

In those states where the statute of privileged communications has been enacted most of the decisions have been in cases involving damages on account of personal injuries and certain criminal cases. These cases have established precedents from which certain rules may be deduced.

In order that the law of privileged communication may be invoked to prevent a physician's disclosure of a professional secret, it is necessary that the relation of physician and patient must exist. This means that the patient looks to the doctor in question for treatment or relief of his illness. The rule does not apply to information acquired through an examination for life insurance.

An investigation to determine the sanity of an accused individual, or to search for physical symptoms bearing on his guilt or innocence of a crime does not constitute a relation of physician and patient. The same is true of an examination made for the person or persons charged with liability, to determine the extent of injury from an accident, but the injured person must know the object of the examination and the examiner must not give him any medical advice or treatment.

A communication from an injured man, made in response to a question from his doctor as to how the injury was received, asked for the purpose of ascertaining the facts in order to properly treat him cannot be disclosed. When the necessary treatment is clear to the doctor without regard to the manner in which the injury was received, there is no privilege as to statements of the injured person regarding the circumstances attending or leading up to his injury. This is the law in New York, but in Missouri it has been decided that where the purpose of the physician was two-fold, to treat the injured person and to question him with a view to getting admissions favorable to his employer, the interview cannot be split into parts, but the physician is bound to secrecy as to everything that passed.

It is not necessary that the physician should be employed directly by the patient. This applies particularly to physicians employed by indi-

viduals or corporations to treat patients injured through accident. Where a hospital is maintained by a corporation for its employees and supported in whole or in part by contributions reserved from the wages of the employees for that purpose, the relation of physician and patient exists between a physician employed in such hospital and an employee who is treated therein.

The person to whom the information is given must be a physician. In some states he must be duly registered, while in others this is not necessary. As a general rule dentists, veterinary surgeons and nurses are exempt from this law of secrecy. In New York nurses have been made subject to its provisions.

The fact that a doctor is not paid for his services does not alter the confidential relation, nor does the payment of the fee by a third person give that person a right to the above knowledge. In some instances this provision has been made applicable in cases where the doctor sued the patient for his fee. Although the doctor may testify to the fact of his employment, or being consulted by, attendance upon, and treatment of a certain patient; the fact that this patient was ill, the place, and duration of the treatment and the number and dates of his visits, he cannot disclose the nature of the illness for which he treated the patient, the advice which he gave the patient, or particulars as to the treatment administered or operation performed, nor can he even disclose whether he advised the patient of the nature of his ailment. Nor can he testify as to the physical or mental condition of his patient. He cannot disclose the existence of an ailment of which he acquired knowledge through an examination of the patient, and the discovery of which was a necessary incident to the investigation made to enable him to treat the patient as to the subject matter of his attendance, although he did not treat the patient for the ailment so discovered.

Lately, however, the New York courts have decided that testimony as to the nature of the patient's disease and the mode of treatment is competent as bearing upon the value of the physician's services.

In order that it be held secret, the physician must have acquired his information while attending the patient. The consent of the patient to the doctor's employment is not necessary, and even though the patient objects to being treated, the communications made to the doctor are privi-



leged. When two physicians are partners one of them cannot tell what he learns from the other regarding the condition of a patient who comes to the office of the firm for treatment.

The physician may divulge information obtained from his patient if the information is given in furtherance of a criminal purpose, but if there is any doubt as to the criminal nature of the purpose it must be assumed innocent.

A physician called to treat a pregnant woman may testify to her statements as to the paternity of her child.

Information obtained by post mortem examination is not privileged, although a California decision requires that the post mortem be made by some one other than the attending physician.

An expert may testify as to injuries received by a person, when he has been engaged to treat and examine the injured person for the purpose of acquiring the knowledge necessary to qualify him as an expert witness. The fact that he has treated the injured person does not disqualify him from giving expert testimony based on hypothetical questions, but the attending physician cannot give expert testimony based on what he learned while attending the patient.

When it is the prescribed duty of a doctor to report any matter then what he may report without malice and with a reasonable belief in its truth is permitted. In such a case even if the diagnosis be an error the doctor cannot be sued by the patient.

Whenever communications between physicians and patients are made privileged by law, the waiver of the privilege can come only from the patient. The doctor has no such right in the matter and should the patient waive the privilege the doctor would be compelled to testify. This rule of secrecy does not end with the death of the patient. The executor or other lawful representative of the dead patient may waive the privilege. In the case of an infant, the guardian has the right of waiver, provided the disclosure will not be prejudicial to the infant's rights.

The waiver may be an express one, as is inserted in some life insurance policies, or an implied one. The latter form grows out of the variety of conditions under which the doctor is liable to meet the patient. We have referred to some of these.

An action for personal injuries is generally considered as being an implied waiver. The supreme court of Missouri restricts this waiver to the actual disability resulting from the injury and does not permit the disclosure of any preexisting or coexisting disease.

In a suit for malpractice the waiver extends only to the physician sued and will not permit testimony as an expert by another physician who has treated the patient after the alleged malpractice.

This is the law in Missouri, but in New York it has been decided in a malpractice suit, that the testimony of the surgeon who performed the operation for cure of an ununited fracture is permissible, in order to show that the cause of non-union was beyond the control of the doctor sued.

Should an injured person receive first aid at the hands of one surgeon and subsequent treatment from another, the calling of the second surgeon as a witness does not release the first one from secrecy.

At the present time the various statutes and decisions regarding our privileged communication before the law, result in a conflict of opinion, and it is impossible to make any general rule of action for the physician based on the law of the state. For our guide and mentor we are forced back to the Father of Medicine, and keeping secret whatever we shall learn of the lives of men, we must practice our art with purity and with holiness.

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## ACCESSORY OR ABERRANT PANCREAS, WITH REPORT OF A CASE.\*

By BENJAMIN BROOKS FINKELSTONE, M. D., BRIDGEPORT, CONN.

While an accessory pancreas is not very rare, still it is unusual enough to warrant the report of another case. This case, like Opie's, is an accessory pancreas entirely separated from the normal pancreas and adherent to the intestine, with numerous branches of the duct of Wirsung through the section, and it is, of course, natural to conclude that the main duct must have eventually opened into the intestine.

Among the other cases reported are those of Klob, who demonstrated and cited two examples, viz., one embedded in the wall of the stomach, while in the other case it occupied the wall of the jejunum. Zenker

\* Reprinted from The Journal of the American Medical Association, Sept. 30, 1911, Vol. LVII, pp. 1124 and 1125.

collected six examples in which in every case the tumor had a duct entering the intestine through overlying mucosa. One was 16 cm., another 48 cm. One of Zenker's cases of special interest was an aberrant pancreas with a finger-shaped diverticulum of 5.5 cm. length, 44 cm. from the ileocecal valve. In these cases the coats of the accessory pancreas varied; *i. e.*, microscopic examination showed tissue resembling pancreas, save that the interlobular tissue was frequently more abundant. Zenker diagnosed these tumors as embryonic rudiments. Luttile, in 200 autopsies, found five cases of aberrant pancreas. Wright described one example of the anomaly in which the tissue contained glandular tissue as well as islands of Langerhans. Hilly suggests that part of the primitive growth is separated from the remainder and later acquires an independent duct. In the *Index Medicus* of 1910, report of only one case was found—Nazari's case of aberrant pancreas in Meckel's diverticulum.

#### REPORT OF CASE.

*History.*—A well-developed, robust-looking Italian, male, aged 34, was brought into the hospital with a penetrating bullet wound of the abdomen. At autopsy all organs were found normal except the peritoneum, which showed extensive peritonitis. The intestines were matted together owing to the same condition. In the intestine 75 cm. from the pylorus two perforations were found, *i. e.*, wound of entrance and wound of exit. About 15 cm. from the sigmoid flexure in the descending colon another perforation was seen. About 30 cm. from the pylorus a flat tumor mass was found in the intestinal wall, on its free border, opposite the mesentery. It was yellowish-gray, about the size of a quarter, markedly defined from the surrounding tissue, and slightly protruding into the lumen of the bowel. The tumor and part of the intestine for about 7 cm. on each side of it were removed and sent to the College of Physicians and Surgeons, Baltimore, for microscopic examination. Dr. William Royal Stokes reported the tumor to be an accessory pancreas, or, as some may call it, "aberrant or supernumerary pancreas." On section the organ had the same yellowish gray color as the pancreas. Sections of it showed that it was enclosed on one side by peritoneum and some muscular tissue, and on the other side by the submucous coat and the mucous membrane.

To the embryologist, physiologist, and pathologist this condition must surely be of some interest as to its correlation with the true pancreas in health and disease. Interesting queries can be evolved from such an anomaly, as, for instance, whether the presence of such a tumor could prevent diabetes in a patient in whom the islands of Langerhans of the true pancreas were affected. Or whether in a diseased condition of the pancreas, would the accessory pancreas undergo sympathetic degenerative changes or hypertrophy and take up the function of the true pancreas?

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# THE JOURNAL

## OF THE ALUMNI ASSOCIATION

OF THE

### COLLEGE OF PHYSICIANS AND SURGEONS,

### BALTIMORE.

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#### ANNOUNCEMENTS.

The commencement of the College of Physicians and Surgeons will be held Monday, June 1.

The meeting and banquet of the Alumni Association will be held on the evening of Saturday, May 30.

The treasurer has departed from his former custom of inserting a notice to renew the subscription in the April number of the JOURNAL by mailing a bill direct to every alumnus.

The reasons for this innovation are several.

Some of our members have taken exception to the enclosed notice when their subscription had been paid believing that they were being dunned. These enclosures were, of course, general, and inserted by the publisher in every copy mailed.

Then requests are constantly made for bills or statements.

Our chief reason in addition to increasing somewhat our revenue is the correction of our mailing list. The JOURNAL is not forwarded when the addressee has changed his residence and many of the local postmasters are derelict in notifying the sender. Letters are forwarded and if the address is not known the letter is returned to the sender so that the name can be looked up in the medical directory.

We would ask the cooperation of our members in this work by requesting them to send in the corrected addresses when letters have been forwarded to them.

CHARLES E. BRACK, *Treasurer.*



## THE CORRELATION OF BED SIDE AND LABORATORY TRAINING AT THE COLLEGE OF PHYSICIANS AND SURGEONS.

Yesterday the trend of medical education was in line with the development of discrete specialties; to-day, in the correlation of the specialties so enacted into an harmonious whole. In no instance is the need for such correlation so essential as in bringing into the closest possible relation the bed side and clinical laboratory the art and science in the practice of medicine. In order to let our alumni know in what manner P. & S. is keeping pace with this trend, it was thought the following outline of changes since their graduation might prove of interest to them.

The teaching wards of the Mercy Hospital remaining under the dominant control of the medical school, the material there is constantly at the command of the student's investigation. To further these investigations under guidance, the medical and surgical wards are under the immediate control of full time, adequately trained clinicians, men not only skilled in physical diagnosis and treatment, but also possessed of adequate laboratory training, enabling them to suggest appropriate laboratory investigations on patients under their control and, moreover, to rightfully interpret the results so obtained. To these full-time men the visiting staff acts as invaluable directors, counselors and consultants, while the house staff forms a most valuable corp of assistants not only in the care of the patients but also directing the work of the student.

As in the work of the wards, there is likewise a division of labor in the laboratories between students, residents, full-time instructors and visiting staff. Under the immediate direction of the physicians in charge, the dispensaries have, in connection with them, equipment for doing the most essential tests of the respective department.

The medical and surgical sections of the senior students have laboratories where the routine blood, urine, feces and gastric analyses of patients assigned to them on their respective wards may be done. These laboratories, though not equipped for intricate work, are supplied with apparatus and reagents for qualitative chemical tests and clinical microscopy. Most fortunately the medical students' laboratory has developed into one of the strongest links between the departments of clinical medicine on the one hand and clinical pathology on the other. The full-time clinician

has the immediate supervision of this laboratory and directs the investigations of the students therein. At the same time, located as it is, in the medical school, it is under the general direction of the department of clinical pathology, and is maintained by it as an integral part.

Supplementary to the work of the students' laboratory are the "house laboratories" maintained by the hospital, and located in it. Here each resident staff has modern and adequate outfits for conducting chemical, microscopic and bacteriological work on both public and private patients. In addition to checking up the work of the student, the resident staff has been enabled to make many examinations a routine measure since the installations of these laboratories. They are under the joint general supervision of the full-time associates in medicine, surgery and clinical pathology, the latter being also resident clinical pathologist to the hospital.

Realizing that in spite of the facilities offered in these laboratories, there are many procedures too time consuming and intricate for those working on the wards to either acquire the technique or perform them if acquired, the school maintains a laboratory of general nature, which is under the immediate direction of the full-time associate in clinical pathology and experimental medicine. Here all tests not otherwise provided for in the dispensaries and wards are made. To this laboratory, also, are referred all blood cultures, all but the simplest serological, quantitative chemical and bacteriological work offering particular technical difficulties, the simplest tests in these directions being done by the students or resident staff in their respective laboratories. The examination of transudates and exudates, the Wassermann reaction (this has become routine on every patient admitted to some of the wards) the partition of nitrogen, the Abderhalden reaction, the making of autogenous vaccines, etc., form the primary allotment of the institution's work to this laboratory. Here, too, the research work in experimental medicine is carried on under the direction of Professor Chas. E. Simon. He, too, forms a court of ultimate appeal in the diagnosis of specimens not otherwise determined. Except for purposes of research, the material examined in this laboratory is confined exclusively to the patients in the hospital and dispensaries connected with it, all other work being referred to practicing members of the staff.

The aforesaid laboratories are primarily for the purpose of diagnosis, though not a little instruction is afforded the students by them. There are, however, class room teaching laboratories where systematic instruction is given the students in the third and fourth years. The ground work of examination of urine, stools, gastric content and blood, is laid in the third year, while in the fourth year the principles of the application of laboratory findings to the clinical picture as observed on the wards by the students, forms the basis of the class work.

Though the equipment and management of some of these laboratories could be improved upon, and will be with time, there is at present the nucleus of a well-knit laboratory system intimately associated with the clinical material afforded by the hospital, which not only offers ample opportunity for effectual study for student, resident and visiting staffs, but in addition is so correlated with other departments as to insure the development of clinical pathology, as an invaluable applied science.

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## THE CLINICAL LABORATORY.

### I. THE WORK OF THE STUDENT.

The instruction in clinical pathology begins in the third year and then extends over a period of ten weeks of three afternoons each. During this time the student is made practically familiar with the common laboratory technique, in so far as the wants of the general practitioner are concerned, so that at the end of the trimester he is expected to make a red and white count, a hemoglobin estimation, a differential count, an examination for malarial organisms, tubercle bacilli, diphtheria bacilli, tube casts, pus and blood in the urine, parasitic ova, etc., with a reasonable degree of precision.

During the fourth year another trimester, of two afternoons per week, is devoted to the clinical laboratory. The aim of the training, during this period, is to teach the student the interpretation of laboratory findings and their bearing upon diagnosis. In the past this obviously most important factor in clinical laboratory work has received but little attention in the curriculum of the medical student, but is a special feature at the College of Physicians and Surgeons. To impress the student of the intimate relationship which should exist between the sick room and the

laboratory, concrete cases from the wards are investigated in the laboratory class room and the findings discussed from the standpoint of differential diagnosis. He thus learns to interpret the leucocytic formula in its bearing upon typhoid fever and its complications; appendicitis, pneumonia, etc., the significance of an increased ammonia coefficient in the urine, of the cytological formula of an exudate, etc.

In connection with this portion of the course there are demonstrated and discussed, also, the more complicated methods which the general practitioner can scarcely be expected to employ himself, but with which he should be familiar to a certain degree nevertheless, so as to be in proper rapport with the laboratory worker who may make such examinations at his request. He is thus shown the technique of the Wassermann reaction, of the Abderhalden blood-ferment reactions and their bearing on the diagnosis of syphilis, pregnancy, Basedow's disease, certain mental diseases, etc.

Finally the student is impressed with the necessity of putting to actual use what he has learned in the college laboratory, so as to make a place for himself among others who have been similarly trained, or to take the position of a leader among those who have not been so fortunate as to secure a training in this ever growing department of modern medicine.

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### DR. DARLING IN SOUTH AFRICA.

We quote the following from the Rhodesia Herald of Friday, January 16, 1914, which will be of particular interest to all the friends of Dr. Samuel T. Darling:

The visit to Rhodesia, at the request of the administration, of Colonel Gorgas, Major Noble and Dr. Darling, is more than a matter of ordinary interest. Colonel Gorgas, as our readers are aware, is one of the most distinguished members of the Medical Service of the United States army. It is no exaggeration to say that he made possible the construction of the Panama Canal by enabling white men to live and work and retain their health in a region which had previously been regarded as a death-trap. Colonel Gorgas is accompanied by Major Noble, Chief Sanitary Officer, United States army, and Dr. Darling, the eminent bacteriologist and pathologist who is regarded as one of the greatest living experts on black-water fever. The Rhodesian government have acted very wisely in inviting Colonel Gorgas and his colleagues to visit this country, and we are sincerely glad that they have been able to accept the invitation.



## Obituary.

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DR. ANSELM DIMMIC HATCH, College of Physicians and Surgeons, Baltimore, '82; died at his home in Orleans, Mass., January 4, aged 50.

DR. LINGARD I. WHITEFORD, College of Physicians and Surgeons, Baltimore, '97; of Fullerton, Md.; died at the home of his mother in Parkville, Baltimore, August 8, aged 35.

DR. WILLIAM JAMES KORNEGAY, College of Physicians and Surgeons, Baltimore, '93; died at his home in Mount Olive, N. C., December 12, from cerebral hemorrhage, aged 47.

DR. RICHARD DULANEY LEITH, College of Physicians and Surgeons, Baltimore, '77; of Vienna, Va.; died in a sanatorium near Richmond, Va., September 27, from arteriosclerosis, aged 60.

DR. CHARLES S. RANNELLS, Washington University, Baltimore, '76; a member of the Kansas Medical Society, and for thirty-six years a practitioner of Allen County; died at his home in Savonburg, about February 26.

DR. WILSON A. LONG, College of Physicians and Surgeons, Baltimore, '82; of Frederick; a member of the Medical and Chirurgical Faculty of Maryland; died at St. Agnes' Hospital, Baltimore, November 7, from pneumonia.

DR. WILLIAM SAMUEL JENNINGS, College of Physicians and Surgeons, Baltimore, '85; a life-long resident of the Edisto section of Orangeburg County, S. C., and an esteemed practitioner of Cordova; died at the home of his brother in Orangeburg, December 7, from disease of the kidney, aged 55.

DR. GARLAND PAYNE MOORE, College of Physicians and Surgeons, Baltimore, '86; acting assistant surgeon U. S. P. H. S.; a member of the Medical Society of Virginia; whose last station was at Kobe, Japan, where he was on duty at the American Consulate; died suddenly at sea September 9, while en route to the United States, aged 49.

DR. HENRY STIER POLE, Washington University, Baltimore, Md., '80; a Fellow of the American Medical Association, and a recognized authority on the therapeutic qualities of the waters of Virginia Hot Springs, where he had practiced for forty years; president of the Bath County, Va., National Bank; died at the home of his daughter in Lewisburg, W. Va., December 28, from heart disease, aged 66.

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### Marriages.

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DR. R. SUMTER GRIFFITH, '86, was married to Miss M. Maggie Matthews of Afton, W. Va., on Wednesday, February 18, 1914. They will live at Basic City, Virginia.

DR. JOHN EDWARD MARSCHNER was married to Miss Grace Vivian Hamilton, of Fayetteville, W. Va., on January 21, 1914. The doctor is practicing at Wheeling, W. Va.

DR. JOHN JOSEPH O'MALLEY, of the United States Navy, was married to Miss Mildred Fendall Jones, a cousin of Ex-Surgeon General Rixey, of Washington, D. C., on Wednesday, January 7, 1914.

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### Personal Notes.

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DR. H. LOUIS STICK, '03, superintendent of the Worcester State Asylum for the Insane, paid a recent visit to Baltimore. While in the city he was the guest of his brother, Rev. J. Monroe Stick, of 12 E. 25th Street.

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### Correspondence.

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DR. CHAS. EMIL BRACK, 500 E. 20th St., Baltimore, Md.

*Dear Doctor.*—Enclosed please find journal clippings announcing the demise of my good and true friend Dr. Ferdinand N. Sauer, '01, of Jersey City, N. J., on July 8, 1913, at 10.30 a. m., of aneurysm of the aorta, dying while faithfully performing his duty to the sick. The paper does

not say too much about Ferdinand Sauer, the friend, benefactor and helper at all times of the sick poor of Jersey City. There is one thing consoling in his untimely death and that is the memory he leaves behind of a busy life well and faithfully spent in his chosen profession for the benefit of suffering mankind. How strong the call to duty was with him is nobly brought therein—and how beautiful a death to die as did good and brave Ferdinand Sauer.

Bereaved and sorrowful, I am,

Very truly yours,

FREDERICK W. MAYER.

CURTISVILLE, PA.

ALUMNI ASSOCIATION, COLLEGE OF PHYSICIANS AND SURGEONS.

*Dear Dr. Brack.*—Enclosed please find my check for \$3.00 for the JOURNAL. During my brief visit in Baltimore in September, partly for some real clam chowder at Horn & Horn's, as well as to visit the college, I noticed a marked change in the place.

I really felt almost a stranger as I wandered around seeing but a few of the men I knew. From the few with whom I talked I learned that every effort was being extended toward bringing our school to the front.

I enjoyed the spirit of the few I met.

My old friend, Dr. Smith, superintendent of the hospital, showed me around the new hospital and it is without a doubt among the finest in the country.

Of course I enjoy the JOURNAL but deplore the fact that so little news of real interest about our class of '08 is seen.

With best wishes, I am,

Faternally yours,

E. W. CROSS, M. D.

MONONGAHELA, PA., March 5, 1914.

*Dear Doctor Brack.*—Please find enclosed money order for two dollars, for JOURNAL OF THE ALUMNI ASSOCIATION. If there should be a balance, if you will kindly mail me a statement, I will remit the same. I always find the JOURNAL interesting, and frequently see some of the names of

the "boys" of '85 mentioned in its columns. When I read the JOURNAL it frequently carries my thoughts back to the busy but pleasant times we spent at good old P. & S. I hope it may always live and prosper.

With kindest regards, I remain,

H. T. BILLYCK, '85.

CAMAJUANI, 1 Marzo de 1914.

DR. CHAS. E. BRACK, 500 E. 20th St., Baltimore, Md.

*Dear Doctor Brack.*—Enclosed please find check for \$2.00 to pay for two years' subscription of the ALUMNI JOURNAL.

I will look forward to the coming of the JOURNAL. I know I will be very glad to hear good news of the College and Faculty. I am here in Cuba in a small town doing very well; passed my State Board a week after I left the P. & S., and the people have forgotten that I am a young doctor and everybody calls on me already.

Best regards to yourself and I remain,

Sincerely yours,

ARMANDO SÁNCHEZ VALDÉS.

BRITISH VICE-CONSULATE, TOULOUSE, January 6, 1914.

*Dear Doctor Brack.*—I enclose a cheque for ten dollars and thank you very much for sending me so regularly the JOURNAL OF THE ALUMNI ASSOCIATION.

Being of the class of '77-'78 I have very pleasant recollections of very dear friends, some of them, alas, have joined the great majority.

My particular friends were Professors T. R. Brown and Coskery and many a pleasant hour I spent with the late Professor Latimer.

Thanks to their teaching and principles my career has been a successful one.

I send a New Year's greeting to all my college chums who may remember a stray Englishman to whom they were so friendly. Believe me, dear Doctor Brack,

Yours very truly,

THOMAS HUGGINS, M. D., D. D. S.



READY BRANCH, N. C., February 10, 1914.

DR. CHAS. E. BRACK, Baltimore, Md.

*Dear Sir.*—Dr. U. E. G. Dyer, class '92, died at his home in Tuleta, Texas, October 26, 1913, at the age of 47 years and seven months, from heart failure.

After graduating the doctor practised at this place a few years, then moved to Star, Texas, where he enjoyed a large and lucrative practice.

He was a member of the board of medical examiners of his district at one time.

After doing special post graduate studies in New Orleans, and Chicago, he did special work in Goldthwait, Houston and San Antonio, finally settled in Tuleta, where he died.

Yours truly,

DR. A. J. ELLER.

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HASSANANAD, TEHERAN, PERSIA, March 14, 1914.

DR. CHAS. E. BRACK.

*Dear Sir.*—I am enclosing you \$1.00 for the JOURNAL. Thank you very much for keeping track of me, and have followed me with the welcome JOURNAL wherever I have gone. I enjoy so much to glance through its pages, and especially to read over the names of the Faculty, the Associates and the Assistants to whom I learned to take such a liking. How glad I was when I learned that the far-seeing Faculty had appointed Dr. Lockwood as the Dean of our dear college.

I have had enough of Persia. I hope some time next fall to return to good old U. S. A. and back to Baltimore (D. V.).

Yours very truly,

JONATHAN PETROS.

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MOUNDSVILLE, W. VA., April 6, 1914.

*Doctor Brack.*—Enclosed please find check for three years' subscription for the JOURNAL. I would not be without the JOURNAL, as it keeps the Alumni in touch with each other.

I located in Moundsville, W. Va., in September, 1906, and have practised here ever since. Am doing well. Have two girls and two boys; the youngest, a boy, seven weeks old.

I was in Chicago a couple weeks ago seeing Dr. Brophy do some oral surgery, and visited some hospitals. Saw Dr. Dalton, '06, who related the incident of Dr. Dorsey's death by electrocution by a live wire.

Success to the JOURNAL and its many readers.

W. P. BONAR, '06.

PENSACOLA, FLA., March 6, 1914.

DR. CHAS. E. BRACK, Baltimore, Md.

*Dear Doctor.*—You probably do not remember me in your quiz class in 1897, but I was one of the boys. I have been in the land of flowers ever since and doing very nicely.

What prompted this little note to you are two things. The article written on Dr. Warren and Dr. J. M. Scanland, who took his place in the sanatorium. I have often wanted to know where Dr. J. M. Scanland was. So I am going to enclose you \$1.00 for the Alumni for one year, that I may get in touch with my college friends.

Doctor, I wish you would tell me where *The American Journal of Disease of Children* is published. I am devoting a great deal of time to those diseases.

I have a very nice practice and I enjoy it, too, and I have a good wife and no babies.

Remember me to Dr. Ruhrah; he was one of my quiz masters also.

I hope this \$1.00 bill will not get lost.

With best wishes, I am,

Yours respectfully,

J. H. BICKERSTAFF, M. D.

KAMSACK, SASK., December 22, 1913.

*My dear Brack.*—JOURNAL OF THE ALUMNI ASSOCIATION came to hand this morning. I have been roaming about the world for some years and out of touch with civilization. I believe I never was a subscriber to the Alumni, but if you wish to start the JOURNAL from 1914, I shall be pleased to subscribe for the sake of hearing something of the "boys."

Yours very truly,

J. I. WALLACE, '95.

### MERCY HOSPITAL CAMPAIGN.

A campaign for the raising of \$320,000.00 for Mercy Hospital is in progress as the Journal goes to press. This amount is required to pay off the indebtedness on the hospital and to provide a much needed nurses home. Any help that may be offered by the Alumni will be gratefully accepted by the Sisters of Mercy.

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### Book Review.

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- E. Merck's Annual Report of Recent Advances in Pharmaceutical Chemistry and Therapeutics. 1912. Volume XXVI. E. Merck, Chemical Works, Darmstadt, 1913.

The recent Merck publication is a particularly valuable collection of the new things in therapeutics. The book is particularly useful because it gives a great many different references to the newer drugs both in reference to their therapeutic uses and also to the chemistry and certain diagnostic uses as well. Taken with the previous volumes, it makes a most useful reference handbook.

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### NASAL AND AURAL INFECTIONS.

There is a growing impression, among specialists in those diseases, that catarrhs of the nose and ear, especially chronic discharges, are commonly the results of mixed infections. If this view is correct, is it not a fair inference that Mixed Infection Phylacogen may provide a solution to one of the most perplexing problems that the profession has been called upon to solve? There is ground for such conclusion. Certain it is that the Phylacogen referred to has produced some very satisfactory results in numerous cases which had failed to respond to conventional modes of treatment. The writer recalls several cases of this character that have been reported in the medical press during the last year and a half.

An open letter to the profession which is appearing in leading medical journals over the signature of Parke, Davis & Co. adduces additional evidence of the value of Mixed Infection Phylacogen in stubborn nasal and aural infections. This communication, which bears the title "A Letter to Medical Men," cites some cases that appear strongly confirmatory of the mixed-infection theory of etiology. All of the reports are interesting. At least one of them is remarkable: it deals with a housemaid who suffered almost total deafness in one ear for twenty-one years and whose hearing in the defective organ was practically restored after eleven injections of Mixed Infection Phylacogen.

# A LETTER TO MEDICAL MEN.

Dear Sir:

Of all the discouraging cases which confront the general practitioner there are few more hopeless than chronic nasal and aural troubles. The difficulty of treating discharges from the ears is increased by uncertainty as to their etiology, the only fact that can

## Mixed Infections.

safely be postulated regarding them being that they are the result of a mixed infection. For example, a bacteriological report recently obtained with reference to an ear discharge is as follows: "Films prepared direct from this swabbing contain many gram-negative and gram-positive bacilli, together with several gram-positive micrococci. The inoculated media yield cultures showing large numbers of bacillus proteus, small numbers of diphtheroid bacilli, and a few micrococci."

A considerable volume of evidence has been accumulated showing that Phylacogen, without operation or local treatment, not only frees the sufferer from excessive secretion, but also, even when the secretion is merely reduced in quantity, entirely gets rid of its unpleasant odor.

We have records of a large number of cases treated with Mixed Infection Phylacogen.

Two cases are supplied by a surgeon. In both, the discharge became abundant and offensive after operation. Treatment was commenced with 1 Cc. Mixed Infection Phylacogen, the injection being gradually increased until a dose of 8 Cc. was reached. The reactions in both cases were of a comparatively mild character, and the result has been entirely satisfactory.

## Suppurating Antrum.

Another case is that of a professional man (43) who has suffered from a chronic nasal catarrh for some nine years, and deafness in the left ear for about a year, with difficulty in breathing through the left nostril. This gentleman does much public speaking, and in the frequent effort to clear his throat he often became quite hoarse. He received in all eight injections of Mixed Infection Phylacogen, doses up to 10 Cc. being given. The reactions after the third, fourth and fifth doses were very severe, but the latter doses did not cause much disturbance. He gradually lost his catarrh, and hearing returned at the middle of the course. The result has been most satisfactory, especially as regards the improved condition of his voice and throat in public speaking.

## Catarrh with Deafness.

Another case is that of a housemaid (26), who when five years old had an attack of scarlet fever. Ever since then she has had discharge from the right ear, with almost complete deafness; could only hear a watch pressed close on the ear. Treatment was commenced on April 27, 1913, with injection of 2 Cc. Mixed Infection Phylacogen, doses being gradually increased to 10 Cc. After two or three injections the discharge increased in quantity, and became thinner, and thereafter gradually diminished. After eleven injections, extending over three weeks, the patient with her left ear on the pillow heard with the right ear for the first time in twenty-one years the clock ticking in her bedroom. Since then hearing in the right ear is almost as good as in the left.

## Suppurative Otitis Media.

One of the medical men from whose reports we have quoted concludes with the following remark: "In my opinion the most remarkable thing about these cases—even more remarkable than the cure of the catarrhs—is the great improvement in the

## General Health Improved.

general health which followed in the three to four months after the injections had been discontinued." This opinion is shared by every medical man with whom we have come in contact who has given Phylacogen a fair trial in suitable cases. Our recently issued pamphlets on "Phylacogen Therapy," 1914 edition, contain much interesting material on the new system of treatment, and we shall be glad to send them to you on request.

Very truly yours,

Detroit, Mich.

PARKE, DAVIS & CO.



## JOURNALS ON FILE IN THE LIBRARY.

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1. American Journal of Anatomy.
2. American Journal of Biological Chemistry.
3. American Journal of Diseases of Children.
4. American Journal of Insanity.
5. American Journal of Medical Sciences.
6. American Journal of Physiology.
7. American Journal of Obstetrics.
8. American Medicine.
9. American Chemical Journal.
10. Annals of Otology, Rhynology and Laryngology.
11. Annals of Surgery.
12. Archives of Internal Medicine.
13. Brain.
14. Johns Hopkins Hospital Bulletin.
15. Medical and Chirurgical Faculty of Maryland.
16. Chemischen Berichte.
17. Chemical Abstracts.
18. The Clinical Journal.
19. Journal of Experimental Medicine.
20. Journal of Medical Research.
21. Journal of Pathology and Bacteriology.
22. The Lancet.
23. Laryngoscope.
24. Mitteilungen und der Medizin & Chirurgie.
25. Index Medicus.
26. Journal of American Chemical Society.
27. Journal of Abnormal Psychology.
28. Journal of Mental and Nervous Diseases.
29. American Medical Association Journal.
30. Medical Record.
31. New York Medical Journal.
32. Institute Quarterly.
33. Southern Medical Journal.
34. Ophthalmoscope.
35. Zeitschrift Urologie.
36. Journal of Obstetrics and Gynecology of the British Empire.
37. Dominion Medical Journal.
38. Old Dominion Monthly.
39. The Boston Medical and Surgical Journal.
40. Journal of Alumni Association of P. & S.
41. Journal of Physiology.



# College of Physicians and Surgeons

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Vol. XVII No. 2

JULY, 1914

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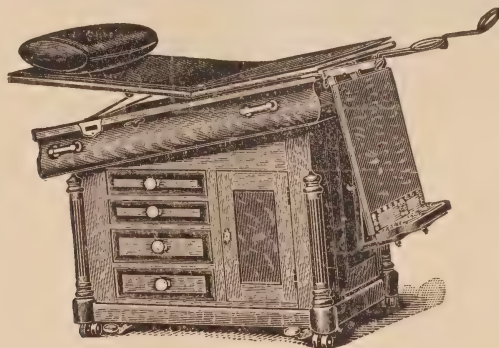
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RECOGNITION OF THE DIFFERENT PERIODS OF  
GONORRHŒA BY THE MICROSCOPE.\*

By DR. HARRY G. STEELE, BLUEFIELD, W. VA.

The writer of this paper poses neither as a bacteriologist nor as a genito-urinary specialist. The members of the Medical Society of this state have had experience one way or another with this prevalent affection and it is useless to take your time here to describe the symptoms of gonorrhœa.

Some time in the latter months of 1908 while making frequent examinations of the discharge taken from the male urethra, the writer discovered that there was a marked difference in the microscopic picture of gonorrhœa pus in the first few days after exposure and that of a month to six weeks duration. So a search was begun to see if there was anything in this idea.

In January, 1909, a young man came into the office and intimated "that that old case had returned on him again," which had received six to eight weeks treatment in the latter part of August, September, and possibly in October, 1908. He was asked why he did not report as to his condition from time to time and told that he had not been seen around town for a few weeks.

"Oh! I thought I was cured and went down home to Virginia for two weeks to take a rest," was his reply.

Right here a specimen of the urethral discharge was smeared on a glass slide, stained and placed under the microscope for examination. And while this was being examined, the patient denied having been exposed since August when he first came for treatment.

He had been discharged as being practically cured some time in October. No urethral discharge had been seen from that time until

\* Read at the West Virginia State Medical Association, May, 1914.



about three days before he came for this examination. He had returned to the coal field just eight days previous. He denied absolutely having been exposed for the past five months and emphasized the fact "the same old case had returned on him." The writer kept on examining the specimen under the microscope until convinced that the picture seen showed the discharge to be, what is mentioned in this paper, of about a week and not more than ten days duration. The patient was emphatically informed that he was not telling the truth, and the symptoms he was then complaining of were not from his old case but that he had contracted this one in about a week's time. Then he owned up to having been exposed just seven days previous.

With this as a beginning, the writer became particularly interested with the microscopical analysis of gonorrhoea. In all perhaps two hundred cases have been examined.

While no effort has been made to keep any definite data, the following ideas have become fixed in my mind. Let us consider these ideas.

A patient comes to you with the symptoms of specific urethritis, and having been exposed to a suspicious character, the diagnosis may or may not be already made. On examination you find that the patient has a discharge from the meatus. You smear some of this on a glass slide and stain it with a saturated solution of methylene blue, Harlow's Hayhurst stain, or make a differential stain such as Bismarck brown. On examining this under the microscope, you find the biscuit-shaped, coffee-grain diplococci present. You may or may not find them inside the pus cell; they may be found in great clumps or a few scattered here and there over the field. In so-called specific infection, *i. e.*, one free from any other bacteria, these gonococci are the only microorganisms seen in the field.

The following description taken from Keyes of New York is so excellent that I quote verbatim:

It is a diplococcus. Each individual of a pair is D-shaped (coffee-bean shaped), with the flat (or slightly concave) border opposed to its fellow, so that the couple forms an ovoid made up of two separate hemispheres. The length of the pair averages about 1.25 microns (Bumm), and the interspace is about half as wide as either segment.

The gonococcus, when it occurs in pus, is found both within and without the pus and the epithelial cells. Indeed, the most characteristic groups are met with inside the cells. The extracellular gonococci may be scattered or irregularly grouped, but the intracellular specimens present a greater regularity of arrangement.

Keyes adds the following in a footnote:

I have never been able to ascertain any relation between the intracellular or the extracellular position of the gonococci and the grade or the stage of the inflammation. Every specimen contains gonococci, both inside and outside the cells, and in definite proportion.\*

Let us divide this disease into five periods, viz.:

First period: From the third to the seventh day after exposure.

Second period: From the tenth to the fourteenth day.

Third period: In the neighborhood of the fourth week.

Fourth period: From the eighth to the tenth week.

Fifth period: From the fourth to the sixth month or even longer.

For the following reasons, I have attempted to classify gonorrhœa into these periods: First, a patient will come to you with a urethral discharge or complains of frequent painful urinations, having been exposed at different times to two or more persons; he wants to know if you can tell which one of these exposures caused the trouble. Second, and a very important reason to us, you have given a patient a faithful, judicious, scientific, six to eight weeks treatment and he is supposed to be practically cured; he has paid you your fee. Then he comes back in two to four weeks or even months after you have discharged him and tells you in a very insinuating, disgusted manner that you did not cure him, that the same old case has returned. He denies having been exposed in any way since you first began the treatment. Are you now going to treat him again for from four to six weeks for the fee that he paid you several weeks ago?

Here are the diagnostic periods as I have observed them.

In the *first period* from the third to the seventh day, you will find pus cells intact, the nuclei normal in appearance and from four to fifty gonococci in the protoplasm of the cell, *i. e.*, within the cell wall, and a few or none outside the cell. An average of about twenty-five gonococci are in a leucocyte.

The *second period* from the tenth to the fourteenth day shows gonococci still within the cell, of which there are approximately seven in a field, each cell containing an average of nine diplococci; a few are now occasionally found between the leucocytes. They are biscuit-shaped, concave on their adherent sides and of average size. A few lymphocytes can be seen.

\* Keyes: Genito-Urinary Diseases, 1905, pp. 56-7.

In the *third period*, *i. e.*, in the neighborhood of the fourth week, gonococci are still present but fifty per cent or more are extracellular. Gonococci are now in nests of from four to thirty-five; an average of three to five nests are found in a field. The diplococci retain their normal appearance. In this period, the protoplasm of the cell is very much diminished or is wanting entirely, allowing the nuclei to continue to separate. A few lymphocytes may be seen scattered throughout the field. After examining several specimens, no mucous threads were found present in this period, nor were any other bacteria.

*Fourth Period.*—The discharge taken in the neighborhood of the eighth to the tenth week shows the cells very extensively broken up. The fragments of the broken up leucocytes have no relation in contour; the nuclei and protoplasm are both quite disintegrated. The gonococci are not so much in clusters, eighty per cent of them being extracellular and comparatively distant from one another in the field. Some are convex at their contiguous borders and vary in size. There are a few epithelial cells and some contain diplococci; some mucous threads are in evidence but they are broken up.

In the *fifth period*, there are scarcely any gonococci present, very few pus cells, and no epithelial or blood cells. All the gonococci are free in the field since the cells are broken up. As to the shape of the bacteria, they are more spherical, *i. e.*, the contiguous portions are convex instead of concave; this is probably due to a certain amount of atrophy having taken place in the old gonococci. When pus cells are found, none are intact and the nuclei are greatly disseminated. The protoplasm is shattered and the whole cell is in fragments which seem to have no relation to one another.

Let me repeat here what White and Martin have to say along this line:

In the mucoid discharges there are a few bacteria scattered between the cells; in muco-purulent they are abundant and in groups, and in the purulent discharge they exist in myriads, both within and without the cells, in chains and in groups.

The position of the gonococci is exceedingly characteristic. They are always found heaped in the protoplasm of the pus cells and epithelial cells. At times these cells appear entirely filled with these organisms. The number of gonococci in acute typical gonorrhœa is very considerable; though there may be an admixture of other microorganisms, these latter are distinctly in the minority. At the very beginning of an acute attack, or in the terminal stages, there may be very few gonococci.

Under the heading *incubation*, the same authors say:

Three to five days represent the ordinary incubation period—that is, the time elapsing between exposure and development of the first symptom.

To summarize as briefly as possible the changes in cells and micro-organisms: In the early stage the pus cells are practically normal in appearance and contour except that some have ingested considerable of the gonococci; occasionally we can see a few germs that have not been gathered in by the phagocytes.

As the disease grows older the leucocytes become more and more broken up; the protoplasm of the cell is destroyed and the nuclei are separated until they seem never to have had any relation to one another. The imprisoned gonococci are now set free by degrees.

Finally the field becomes almost or entirely freed of broken down pus cells; a few mucous threads may be seen here and there. The gonococci are very few in number; in the very latent period they may have more of the shape of a spherical diplococcus when their contiguous portions are convex instead of concave which is probably caused by the atrophic condition due to their age.

While examining discharges from the male urethra, a few specimens were discovered to be what might be called leucorrhœa discharges and proved later to be non-specific and of a few days duration.

Dr. Chas. F. Hicks, of Welch, W. Va., after hearing of the above idea brought out in this paper, suggested that one might be prepared now to know just how to treat the different stages of his cases. And Dr. Warner said that the above method of diagnosing the different periods might aid materially in some medico-legal cases.

I am indebted very much to Clyde E. Shedd of this city for his assistance in getting up this paper.

Please consider this paper anything but complete, due to lack of abundant and accurate data. Being unable to watch the cases from the third day to the end has been more or less of a handicap. It is hoped that enough has been said to cause others, especially genito-urinary specialists or clinical diagnosticians, to investigate the subject so that we will not lack for more detailed information.



## THE INTRAVENOUS USE OF PARALDEHYDE.\*

By G. KIRBY COLLIER, M. D., SONYEA, N. Y.

There appeared in the *Annals of Surgery* for January, 1913, a very interesting report by Noel and Souttar of the use of paraldehyde intravenously, and believing that such a use of this drug would prove valuable in the treatment of certain mental and nervous states, the writer has endeavored to follow out the methods used by Noel and Souttar, with some modifications, chiefly in dosage, owing to the types of patients and the conditions met with.

Paraldehyde is described as a clear colorless fluid, having a peculiar ethereal odor and a disagreeable pungent taste, and is prepared by heating acetic aldehyde with a small quantity of hydrochloric acid or with zinc chloride. It has a specific gravity of .998 and boils at about 225° F. It is soluble in eight parts of cool water, but less readily in hot water. It is freely soluble in ether and is usually administered in doses of half a dram to two drams in some suitable menstruum to disguise the taste and odor. Its peculiar disagreeable odor and taste have prevented the more extensive use of this drug, and any method of administration that will overcome these disagreeable features will, I am sure, cause us to administer paraldehyde more frequently. And again, the very large dosage required to effect any result when given by mouth militates against its use.

Paraldehyde has no depressing effects upon the heart and lungs and is reasonably safe, and unlike many drugs of this class there is no period of excitement preceding its soporific effect. Not only the cerebral, but also the whole lower nervous system is affected. It diminishes the excitability of the spinal cord and the irritability of the motor and sensory nerves. In the literature, we find few recorded cases of paraldehyde poisoning. Mackenzie<sup>1</sup> reports the case of a woman who took by mistake three and a half ounces. A deep stupor followed and not until 41 hours after the drug had been taken was she able to understand and reply to simple questions. Peterson<sup>2</sup> reports the case of a woman who took ounce doses nightly for months without any apparent untoward effects. Elkins<sup>3</sup> reports the case of a man who took sixteen ounces a week. This patient

\* Read at the annual meeting of the Seventh District Branch of the Medical Society of the State of New York, at Sonyea, September 25, 1913.

Reprinted from New York State Journal of Medicine, March, 1914.

rapidly became emaciated and presented cardiac and muscular weakness with delusions of persecution and mental failure.

Our results with the intravenous use of paraldehyde do not differ materially from those obtained by Noel and Souttar, but we went a step further, and endeavored to find if this plan of administration would be of any great value in the treatment of the acute confused states met with in epilepsy and other nervous and mental disorders. I think it is recognized to-day by all, that we have no aid at our command more satisfactory in the treatment of these conditions than the judicious use of hydrotherapy, but even with this method of treatment we occasionally meet with unfavorable results. It was thought that if we could administer paraldehyde intravenously prior to any hydrotherapeutic or other measures instead of using chloral or hyoscine or other powerful depressants we would be making a great step in advance in dealing with these mental states.

We endeavored to use paraldehyde intravenously in no particular group of cases at the Colony and have taken such cases as become mentally confused following seizures, status epilepticus, epileptic furor and for minor surgical operations. In none of our cases has it been necessary to resort to other methods of medication or treatment to produce the desired result.

Our method of administering paraldehyde is as follows: A definite amount of paraldehyde, varying in our cases from 7 to 22 cc. of paraldehyde, was first mixed with an equal amount of ether and this solution then diluted with 150 cc. of cool sterile water or a cool one per cent sodium chloride solution. Care was always taken to see that this solution was kept cool, the flask being surrounded with ice while preparations were being made. It was found in this way that the paraldehyde was better held in solution.

The flask containing the solution was briskly shaken and through the cork two glass tubes passed. To one of these was attached a rubber tube, at the distal end of which was a fine needle for puncture of the vein. The second tube is curved upon itself, the external limb extending below the bottom of the flask to permit of the entrance of air. Short pieces of glass tubing are placed in the rubber tube so that the solution can be inspected and in order to prevent the injection of air into the vein. The flask being inverted, a constant flow of the paraldehyde solution is obtained, which is regulated by the aid of a screw stop-cork. Puncture was made in our

cases into the median basilic vein, and in only two was it necessary to expose the vein for puncture, the needle being inserted into the vein through the skin without any difficulty.

We will not attempt to report in detail all of our cases but will cite only a few to show what can be accomplished with paraldehyde used intravenously.

CASE No. I.—J. K. This patient had tetanic status. He was constantly convulsing from about 3 p. m. until 5.30 p. m. At 5.30 p. m., he was given paraldehyde intravenously, 7 cc. being injected into the right median basilic vein. In 30 seconds after needle puncture was made the odor of paraldehyde was noted on his breath and in three and one-half minutes after needle puncture patient became quiet and ceased convulsing. Was put to bed and slept quietly all night until the next morning, when he became somewhat elated for a short time, about one-half hour. He remained in bed and in a short time he went to sleep again, sleeping most of the day and awakening in the evening. Appeared in his usual condition at this time. Thirty hours after injection was made the odor of paraldehyde on his breath was very pronounced.

CASE No. II.—F. McP. Paraldehyde was prepared in the usual manner, 10 cc. being used. An injection was made into the right median basilic vein. Within 10 seconds after needle puncture paraldehyde was being excreted from the lungs as evidenced by odor of the drug on patient's breath. Later patient became drowsy. Five minutes after injection or needle puncture an incision about 6 inches in length was made in forearm and an abscess opened without causing any apparent pain. Patient slept for two hours following injection, and 24 hours after, the odor of paraldehyde was well recognized on his breath.

CASE No. III.—B. C. This patient was given 12 cc. of paraldehyde prepared in the manner described above. Fifteen seconds after puncture was made the odor of paraldehyde was noted on the breath and 3 minutes later an infected wound of the foot was curetted and packed without causing any apparent pain. This patient slept for 12 hours. No headache or other unfavorable symptoms followed the use of paraldehyde intravenously in any of our cases.

CASE No. IV.—E. S. A young woman having serial epileptic seizures and being mentally confused. Given 15 cc. of paraldehyde prepared in the usual manner, injection being made into the median basilic vein. In 10 seconds after beginning injection paraldehyde was noted on the breath and in 4 minutes patient was asleep.

CASE No. V.—M. G. Serial seizures—22 cc. of paraldehyde used, followed in 4 minutes by sleep and cessation of attacks.

CASE No. VI.—P. B. Eight cc. of paraldehyde used. Three minutes after injection was begun—abscess opened and curetted.

CASE No. VII.—F. W. Given 7 cc. of paraldehyde in the usual manner. In 10 minutes patient was asleep and a dislocation of the right thumb was reduced. Patient slept for only one hour and upon awakening was allowed up and in his usual condition.

#### REFERENCES.

1. Mackenzie, *Brit. Med. Journal*, Dec. 12, 1891.
2. Peterson, *Med. Record*, Dec. 10, 1892.
3. Elkins, *Quart. Journal of Inebriety*, Oct., 1894.



EXPERIENCE WITH OVER ONE THOUSAND CASES OF A  
FORM OF CHRONIC URETHRITIS.\*

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It is generally conceded that there are few conditions more nerve-racking or distressing to a person than an infection with a venereal disease. This is particularly manifested and emphasized in those afflicted with a longstanding urethritis. The serious nature of the maladies which may be acquired through sexual intercourse is being daily impressed on the public by the dissemination of literature bearing on this subject. Most men are already cognizant of these dangers, however, either in having been victims themselves, or from knowing the experience of others. The patient has to bear not only the physical suffering incident to venereal diseases, but also the mental distress due to the embarrassing secrecy of the situation, to the objectionable restrictions, which frequently cause humiliation, to fear of exposure, to the danger of infecting others, and to the possibility of the many painful and serious complications. However well-recognized these facts may be, they apparently do not and never will deter men from gratifying their sexual inclinations. Therefore it becomes incumbent on us to give this class of patients our earnest attention and best endeavors.

A study of the mental attitude assumed by men regarding the condition of their sexual organs is interesting. We have found most patients to be safe and sane, fortunately, so that they will follow instructions fairly well and persist in the treatment, even if it is weeks or months before they are pronounced cured. Then there is the highly nervous or ultra-conservative man who is more or less of a fanatic or neurasthenic. He persistently complains and worries over the most trivial conditions, exaggerating every symptom and pain, however insignificant. When a patient of this class has gonorrhea, he acquires the objectionable habit of stripping the urethra at frequent intervals, following the stripping with a macroscopic examination of the urine. Should he find any discharge, whatever the quantity or character, or should the urine contain the minutest shreds,

\* Read at the One Hundred and Fifteenth Annual Meeting of the Medical and Chirurgical Faculty of Maryland, April 22-24, 1913.



it will prey on his mind, causing despondency, and psychic disturbances out of all proportion to the disability. It is not always the ignorant who make up this class, many being the more intelligent patients. Finally, we have the reckless fellow who is too ignorant or too careless to understand the serious nature and grave consequences incident to venereal infections and fails to realize that the essential step in promoting a cure is proper attention. He believes that the absence of a purulent discharge in gonorrhea is significant of a cure, and neglects medical advice, especially when the treatment in any way inconveniences him. He restricts himself to nothing, and permits his condition to run on from bad to worse, possibly infecting others as well as jeopardizing his own welfare.

In the treatment of a urethritis it first becomes necessary to ascertain the nature of the most important symptom, namely, the discharge, particularly if gonococci are the underlying cause. However simple this may be in acute cases, in chronic conditions it is not always an easy matter to determine and, as the treatment in non-gonorrheal urethritis is so essentially different, it is of paramount importance to prove decisively the presence or absence of the gonococci.

It is not our intention to go into detail as to this examination, but, speaking generally, it includes:

1. A microscopic and bacteriologic examination of the urethral, prostatic and seminal vesicular secretions obtained by the usual procedure of massage, etc., and of the urinary sediment. The possibility of the prostatic utricle and Cowper's gland harboring the infection must also be borne in mind. These examinations to be made under favorable, and if found negative, under unfavorable conditions; namely, after the drinking of alcoholic beverages, preferably beer, after exercise, and after the anterior urethra has been irritated by the passing to and fro of an aboule (bulbous bougie), the largest that the meatus will admit. The procedure last mentioned is important for it not only helps to reveal the condition of the anterior urethral mucous membrane but, after its application, gonorrheal organisms which have been deeply imbedded in the mucous membrane or particularly in the follicles and infiltrated areas, and have there assumed a more or less latent state of activity, will again show their presence in clinical manifestations and may then be detected by the usual bacteriologic examination.

2. The complement-fixation test. This test is based on the same theory as the Wassermann test in syphilis. Mueller and Oppenheimer<sup>1</sup> deserve the credit of being the first to describe this test, and for having performed it on patients suffering with gonorrheal arthritis. The stumbling-block has been in the antigen, owing to the fact that the different strains of gonococci serologically act independently. Schwartz<sup>2</sup> and McNeil prepared polyvalent antigens and found that the one containing twelve strains gave the best results. The test promises much for the future as a means of testing the presence of gonococci in the human body.

When non-gonorrheal, the discharge may be due to a variety of causes:

1. It may be due to infections with other organisms, such as the colon bacillus, the staphylococcus, the tubercle bacillus, *Micrococcus catarrhalis*, etc.

2. The discharge may be secondary to non-gonorrheal prostatitis, manifested by a more or less indurated, large or normal-size gland, the secretion showing pus-cells with or without organisms.

3. The discharge may be non-bacterial, due to gouty, rheumatic or lithemic disturbances, or to traumatism.

4. The discharge may be due to a urethritis secondary to a cystitis or pyelitis, or occurring during the course of an eruptive fever. Syphilis and grippal infections also occasionally give rise to a urethritis.

5. The discharge may be due to granulations and infiltrations of the urethra (non-gonorrheal).

In our experience the last-named form, granulations and infiltrations of the urethra, outnumbers by far all the others in making up the list of non-gonorrheal urethral conditions; and it is on this class that we desire to lay particular stress.

#### GRANULATIONS AND INFILTRATIONS OF THE URETHRA.

The condition was described first by Otis and later by Oberlander, who made urethroscopic studies of the urethra and described these pathologic areas more or less minutely and divided them into soft and hard infiltrations.

The soft infiltrations are localized foci of round-cell infiltration chiefly around the urethral glands, the forerunner of a connective-tissue change.

<sup>1</sup> Mueller and Oppenheimer: Wien. klin. Wchnschr., 1906, No. 19, p. 894.

<sup>2</sup> Schwartz: Am. Jour. Med. Sc., 1911, cxli, 693.

Slightly elevated granular areas or distinct granulations may also be seen. The catarrhal condition present over these areas and the desquamated epithelium is the source of the discharge found at the meatus. Hard infiltrations, the advanced stage of the soft, show that connective-tissue formation has taken place. The walls of the canal in these places are harder, owing to the presence of fibrous tissue. Distinct narrowing (beginning stricture) is observed. It is not our aim to differentiate the varieties of these urethral infiltrations, but to locate them, irrespective of their condition, whether hard, soft or medium, and to give the method and urge the importance of the restoration of the urethra to its normal caliber and distensibility.

The usual symptoms of this form of urethritis consist of nothing further than a more or less purulent drop which collects at the meatus from time to time, or is seen only after stripping the urethra, particularly in the morning—the notorious “morning drop”—or when the patient has refrained from passing urine for some hours. There is little or no pain, except perhaps during periods of intense sexual excitement. There is no disturbance in micturition, but the urine in the first glass will invariably contain shreds, that in the second and third being clear; or, if the anterior urethra is first washed out, all glasses will contain clear urine. Trifling as these manifestations may be, it is just such patients who run from one physician to another and undergo the extremes of treatment. Advised by some to let it alone, in the hands of others they go through the whole gamut of treatment—prostatic massage, irrigations, instillations, injections, vaccines, serums and instrumentations of various kinds and degree, to say nothing of balsams, *ad nauseam* for not only the patient but also the doctor as well. Realizing the importance of relieving this class of patients both physically and mentally, we have pursued the following method:

After a thorough examination has proved the absence of the gonorrheal organisms or other infections, or of any involvement of the posterior urethra, prostate and other adnexa, we may be certain that the focus of trouble is in the anterior urethra. This can and must be found by the introduction of an bougie of sufficient caliber to stretch the walls of the urethra, so that in contradistinction to the normal smooth mucous membrane the granular and infiltrated areas may be felt as rough spots or

perhaps as actual obstructions. It is our belief that the degree of distensibility of the normal urethra is far greater than is generally taught and accepted; consequently we find that to demonstrate these pathologic lesions requires instruments of much larger caliber than commonly employed. An boule, the largest that the meatus will admit, may or may not detect these spots; for instance, the urethra may feel perfectly smooth with No. 30 F., but with No. 33 F. distinct roughness will be observed, and a 35 F. may be arrested at this thickened area. Another urethra may feel smooth with 33 F. and require a 35 F. to detect the pathologic areas. As the caliber of the urethra varies in different individuals we cannot place the normal at any fixed number. It may be put down, almost as an invariable rule, that when the symptoms as described are present, the proper search of the anterior urethra with the proper size boule will surely detect the area whence the morning drop or mucopus has its origin. The one thing above all others likely to interfere with the proper search of the urethra to detect these infiltrated areas is a meatus too small to admit an boule of sufficient size. It is an anatomic fact that the meatus is the narrowest point of the urethra; therefore, should the meatus be of insufficient caliber, one need not hesitate to perform a meatotomy and remove the obstacle which blocks the way for the proper examination and future cure. Indeed, if the infiltrations are near the meatus, which is often the case, the meatotomy alone without subsequent dilatation will effect a cure.

#### AUTHORS' METHOD OF TREATMENT.

Our method for performing meatotomy has already been described in detail.<sup>3</sup> Briefly, it consists in suturing the edges of the skin and mucous membrane on either side of the median incision on the floor of the urethra. This suturing of mucous membrane to skin leaves no raw surfaces to give rise to troublesome bleeding or possible agglutination of the cut edges which would afterward necessitate their being pulled apart, or kept open by the use of plugs. The freedom from pain, annoyance and discomfort experienced by the patient after meatotomy done in this way justifies one in making use of this operation more frequently, especially as it so markedly facilitates the dilating process.

<sup>3</sup> Likes, Sylvan H., and Schoenrich, Herbert: Meatotomy; A Simple Method, *THE JOURNAL A. M. A.*, May 3, 1913, p. 1359.



In addition to the ordinary bougies, various instruments, particularly the two-bladed dilators of Oberlander and the four-bladed dilator of Kollman, were devised for the purpose of removal of these areas of infiltration. These dilators have the advantage of not requiring a large meatus, but the many objectionable features outweigh the advantages. Some of these are that the dilatation is not uniform; in hard infiltrations the dilator yields rather than the thickened area itself; furthermore, asepsis is carried out with difficulty and the instruments are expensive, fragile and easily broken. In the event that a meatotomy was necessary, and allowing sufficient time for the proper healing of the wound, a fairly large aboule, about a No. 30 F., is introduced into the urethra as far as the bulb. Any obstructions or rough spots may easily be felt by the examiner, particularly as the instrument is being withdrawn. Should nothing be detected with a 30 F., larger sizes are introduced one after another until one of sufficient caliber is reached that will detect these areas. The number, extent, character and location of the areas should be noted, but the technicalities of the actual measurements with various instruments devised for this purpose are entirely superfluous and have no practical bearing on the future treatment.

To obtain the best results in the removal of these infiltrations it is imperative to make each treatment as painless as possible. This may be successfully accomplished by a simple method of using the local anesthetic. The technic consists in introducing into the urethra a  $\frac{1}{8}$ -grain cocain tablet as far back as the bulb. This is easily executed with a bayonet-shaped ear-forceps well lubricated with glycerin or other lubricant, preferably one which is not oily. Four of these tablets are required to produce the necessary anesthesia. They are deposited in the urethra, beginning at the bulb, the last one being at the meatus. With the fingers closing the meatus, the canal is massaged so that the cocain is well and effectually distributed. The advantage of this method over the use of solutions is that not infrequently the solution, unless precautions are taken, will pass back into the bladder and thus fail to accomplish its desired purpose. Furthermore, it is less dangerous and incidentally less expensive, for the amount of cocain employed is much smaller than when used in solution. We have followed this method thousands of times and have yet to see the slightest untoward symptoms.

Allowing five minutes for the cocain to act, a straight or curved bougie of the same caliber as the number of the aboulé with which the pathologic areas were previously detected, is introduced into the urethra as far as the bulb. Gentle massage over the now distended urethra may be used, although this is not absolutely essential. The instrument is allowed to remain *in situ* for five minutes unless the introduction was easy and accompanied with but little resistance, in which case it is withdrawn and the next size inserted and allowed to remain. The amount of bleeding likely to follow this instrumentation will of course depend on the extent to which these infiltrations have been stretched and broken.

The interval before the next treatment, and the decision whether the same number bougie or one of larger caliber should be used, depend wholly on the amount of reaction following the previous treatment, namely, bleeding and pain. In any case it is advisable in subsequent treatments to begin with an instrument of the same size as that employed on the previous occasion, and then to follow it up with the next number. Naturally a great deal will depend on the judgment and experience of the operator to determine the length of time between treatments and how much to do at each one. The old adage, "more haste less speed," is appropriately applied here and should be borne in mind. In our experience we have found that the intervals between treatments should never be less than five days, and as larger instruments are indicated, the caliber should never exceed one number at a time and preferably not more than one number per treatment.

It is well from time to time to examine the urethra with various sizes of aboules, to note what progress has been made toward ironing out the rough areas which, in order to be detected, would now require an instrument of larger size. For instance, a No. 34 F. aboule which might previously have been arrested or might have caused considerable bleeding in its passage, can now be passed easily with little or no hemorrhage following. The treatment along these lines should be continued until an aboule from five to ten points larger than the one originally used can be passed through the urethra without being arrested and without causing much bleeding. When this has been accomplished and sufficient time, generally about two weeks, has elapsed after the last treatment for the resulting soreness and edema to disappear entirely (the edema in our

opinion acting like Bier's passive hyperemia and helping to absorb the inflammatory products), it will generally be found that the mucus will no longer appear and the shreds be so reduced in quantity that probably only a few flakelets will be left. Should the treatment, however, not have the desired result, the stretching process must be resumed and the urethra dilated up to a higher point. One may feel almost certain that with the proper degree of stretching, differing in different individuals, a cure will almost invariably result when the treatment is carried out to a sufficient extent to restore all parts of the anterior urethra to its normal caliber. It will rarely be found necessary to use any injection treatment or internal medication; but it is suggested that occasionally smears be made. In the event that numerous organisms are found, mild non-irritating injections will not be amiss.

While we recognize the excellent work and achievements so recently accomplished by improved urethroscopes in the posterior urethra, their application in the anterior urethra has not in our experience given the same gratifying results, except for diagnostic purposes.

No attempt has been made in this article to tabulate the results in the large number of our cases of this form of urethritis, extending over a period of many years, or to append burdensome statistics of the percentages of cures and failures; but our results have been so uniformly gratifying and successful that we do not think it amiss to direct the attention of the profession to this phase of anterior urethritis. We believe that if these fundamental facts are borne in mind, valuable service can be rendered by this simple method of careful and thorough exploration of the urethra, with subsequent systematic dilatation, and that a class of patients who are frequently a bugbear to the practitioner as well as to the specialist may be permanently cured. These patients often give a history of having gone through a variety of treatments, conscientiously following all forms of restrictions necessary and unnecessary until they become mental and physical wrecks; and incidentally financially embarrassed and thoroughly disgusted with themselves, the doctor and gonorrhea.

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# THE JOURNAL

## OF THE ALUMNI ASSOCIATION

OF THE

### COLLEGE OF PHYSICIANS AND SURGEONS,

### BALTIMORE.

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#### THE FORTY-SECOND ANNUAL COMMENCEMENT.

The commencement exercises were held Monday afternoon, June 1, at Albaugh's Theatre. The exercises were opened by a prayer by Rev. M. F. Foley. This was followed by an announcement of the graduates and conferring of degrees by Prof. Wm. Simon. The prizes were awarded by Prof. W. S. Gardner, the recipients being: Winthrop E. McGinley, Connecticut; J. Douglas Crane, Maryland; Howard C. Heilman, Pennsylvania; Harry S. Kuhlman, Pennsylvania.

The following were deemed worthy of honorable mention: M. G. Carrera, Chas. Farrell, A. T. Gordon, E. E. Mayer, W. B. Richardson, B. W. Steel, R. H. Walker, J. O. Williams.

The following members of the class of '14 have received appointments at Mercy Hospital: Medical Superintendent, Edward P. Smith; Resident Physicians: S. T. Noland, E. E. Mayer, W. E. McGinley, H. S. Kuhlman, C. W. Bell, J. D. Crane, R. H. Cather, J. F. Spearman, R. H. Walker, F. M. Moose, B. W. Steel, P. P. Hartt, T. F. Bess, S. H. Holland, N. A. Christensen, Richard Shea.

The following members of the class of '14 have received hospital appointments elsewhere: Dr. A. D. Bogert, Newark City Hospital, Newark, N. J.; Dr. R. J. Stockhammer, Polyclinic Hospital, New York, N. Y.; Dr. Alex. J. Gillis, Sydenham Hospital, Baltimore, Md.; Dr. John G. Brennan, Harlem Hospital, New York, N. Y.; Dr. Louis De La Vega, Santurree, Porto Rico; Dr. J. U. Rohr, Athol, Catonsville, Md.; Dr. A. R. Laugier, Municipal Hospital, San Juan, Porto Rico; Dr. H. S. Berman, Hebrew Hospital, Baltimore, Md.; Dr. J. Vincent McAninch, St. Joseph's



Hospital, Pittsburgh, Pa.; Dr. H. L. Langer, Bellevue Hospital, New York, N. Y.; Dr. Elmer H. Hankey, St. Margaret's, Pittsburgh, Pa.; Dr. Joseph Lipskey, Bay View, Baltimore, Md.; Dr. Frank G. Strahan, Long Branch, New Jersey; Dr. J. E. Maher, Long Branch, New Jersey; Dr. H. E. Halferty, St. Francis' Hospital, Pittsburgh, Pa.; Dr. Merrill F. Hosmer, Eudowood, Baltimore Co., Md.; Dr. John B. Webster, St. Francis' Hospital, Hartford, Conn.; Dr. Wm. B. Richardson, St. Joseph's Hospital, Lancaster, Pa.

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### MERCY HOSPITAL COMMENCEMENT.

The friends of the class of 1914, Mercy Hospital Training School, assembled in the amphitheatre of the College of Physicians and Surgeons to witness the happy number receive their diplomas, on the afternoon of May 22, 1914.

After the opening prayer by the chaplain, Rev. Thos. E. Lyons, an address by Dr. Harry Friedenwald to the graduates was listened to with great interest—the eminent oculist made clear to all the many self-sacrifices which tend to make the successful nurse; but above all, he declared, was the beautiful tactful silence which is so much more valuable than the fluency of many languages.

The diplomas were awarded for Dr. Lockwood, by Dr. Wm. Simon, who with many happy remarks bestowed them on the following:

Misses Frances Aseneth Young, Marguerite Teresa Mullan, Agnes Ruth Garner, Ann Rebecca Young, Florence Patti Kennedy, Irene Elizabeth Miles, Sophia Helena Bloch, Caroline Marie Karas, Helen Campbell Larkin, Rose Deborah Goldberg, of Maryland; Frances Burnett McNamee, Elizabeth Agatha Eagan, Elizabeth Leigh McAllister, Olive Dulcie Wood, of West Virginia; Helen Dolores Costello, Mary Magdalene Gilroy, Pennsylvania; Teresa Estelle Powers, Georgia; and Mary J. de Cresse Sailman, of Jamaica.

The gold medal for proficiency in theoretical and practical nursing was awarded to Miss Rose Deborah Goldberg.

As a preface to the blessing, the Right Reverend Bishop O. B. Corrigan, V. G., advised above all else the great virtue of obedience as the eminent road to success for the nurse, the strict adherence to the doctor's directions

in regard to his patient, and her loyalty to the instructions while still in training—making the nurse whether following her professional career or in her household a most valuable adjunct to society. With these and other remarks, he bestowed the blessing; and the class was then made happy by many demonstrations of gifts from their associates.

A delightful banquet in the Nurses' Dining Hall immediately followed.

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### ANNUAL BANQUET.

The annual banquet of the Alumni Association was held at the Hotel Rennert on Saturday evening at 8 p. m.

Dr. A. W. McGlannan officiated as toastmaster.

Dr. Wm. Royal Stokes responded to the toast, "The Faculty."

Dr. Melvin Rosenthal responded for the Adjunct Faculty.

Dr. Frank G. Strahan represented the class of '14 in excellent style.

Dr. Carter S. Fleming, '14, sang two delightful Scotch songs accompanied by Dr. R. J. Stockhammer, '14, at the piano.

Dr. Samuel Allen, '90, of Utah, Dr. G. M. Bell, '80, of Wakefield, N. C., Dr. Chas. G. Hildebrand, '81, Logansville, Pa., and Dr. S. M. Steele, '86, Weston, W. Va., portrayed college conditions in the days gone by, told amusing stories of their own college days, and gave the new doctors words of advice and good cheer.

Dr. T. R. Paganelli, '03, president of the Association, telegraphed his regrets in not being able to attend and sent good wishes.

Dr. Samuel H. Allen, of Utah, was elected president for the current year; Dr. W. E. McGinley, '14, first vice-president; Dr. Wm. C. Stifler, '05, second vice-president; Dr. H. K. Fleckenstein, secretary; Dr. Chas. E. Brack, treasurer; Dr. A. W. McGlannan and Dr. Knapp with the secretary, members of the banquet committee.

Among the alumni and guests present were: Drs. G. M. Bell, '80, N. C.; Sam. H. Allen, '90, Utah; S. M. Steele, '86, W. Va.; A. T. Crossett, '97, Ohio; W. Edw. Magruder, W. W. Requardt, G. W. Mitchell, Otto Schaefer, A. C. Gillis, Frank D. Sanger, W. S. Gardner, A. H. A. Mayer, Thos. R. Chambers, Chas. F. Blake, Edw. P. Smith, Baltimore; Jno. F. Spearman, '12, Chas. G. Hildebrand, '81, Pa.; C. Hampson Jones, John W. Chambers, '78, H. G. Beck, '96, Edgar Friedenwald, '03, Julius

Friedenwald, '90, Harry Friedenwald, '86, Fred. W. Leitz, '07, Lewis J. Rosenthal, '01, Melvin Rosenthal, '93, Frank Paul, '12, Wm. Greenfeld, '09, A. C. Harrison, Wm. J. Todd, '89, Geo. W. Dobbin, Jno. F. Hogan, '12.

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### CONCERNING PATENT MEDICINES.

Sears, Roebuck & Company, of Chicago, one of the largest mail order houses, has for some years sold patent medicines through its drug department. The new catalogue now issued shows why it no longer lists secret preparations, but they still supply the demand for non-secret, simple or home remedies. The reasons for stopping the sale of patent medicine is not without a considerable amount of interest to the medical profession. For that reason we reproduce the following:

Many of our customers will be surprised and possibly some of them disappointed to find that this catalogue no longer lists the various patent medicines we have carried in the past. Our decision to discontinue the sale of patent medicines was made after careful study of the question from all sides and is based on our policy of handling only dependable merchandise—merchandise that we believe will give the service our customers have a right to expect. We have come to believe that patent medicines do not conform to this standard; in fact we are confident that those of our customers who have investigated the matter thoroughly will agree with us that, considered in all its phases, the patent medicine business is a public evil.

We are not prepared to take the extreme position that no medicines of any kind, regardless of how simple or in what manner advertised, should be offered direct to the public. However, even such a state of things might easily be better than the present situation, in which we find valueless and even dangerous medicines offered to the public through the medium of advertising that is extravagant, misleading and deceptive—advertising calculated to deceive the well into the belief that they are sick and to induce the sick to pin their faith to ineffectual means for recovery.

Practically every patent medicine is put out under a trade-marked name and secret formula. The fact that the name is private property makes advertising profitable where otherwise it would not be. Secrecy permits advertisement of the most extravagant sort to go more or less unchallenged. It is not unusual to find a patent medicine advertisement that tends to leave the impression that there is a "mysterious something" about the medicine that is sufficient to account for the otherwise unbelievable virtues attributed to it. In selling patent medicines the tendency is to tell as little about their composition and to claim as much for them as the law will allow.

That patent medicines are more than likely to be disappointing as well as dangerous is apparent when we consider the fact that the all-important as well as the most difficult thing in the treatment of disease is that of finding the real underlying cause of the trouble, and the further fact that the person least able to form a safe judgment in this matter is the patient himself.



The person who falls a victim to the advertisement that attaches a grave meaning to every little ache or pain, when in reality nothing ails him that forgetting would not cure, is at least defrauded.

The person who depends upon an advertised nostrum to cure a serious ailment, which to be successfully treated must have only the most prompt and skilful attention, is throwing away valuable time. The most dangerous medicine, especially in the case of the lingering disease that drugs alone cannot cure, is that which, by containing a stimulant or an opiate, causes its victim to feel better for a while. Being thus encouraged in a vain hope, though all this time the lurking disease is steadily progressing, he often turns too late, if he turns at all, to rational means for recovery.

The person, whether sick or well, who takes a secret-formula medicine runs a chance of being injured directly by dangerous drugs that may be present. The law requires that only thirteen of these, and their derivatives, be declared on the label, but the medicine may contain certain poisonous drugs, even including strychnin, arsenic and prussic acid, without such declaration being required; and what the law does not require along this line is seldom done.

Therefore we have decided to restrict our line of drugs and medicines to those officially approved by the leading drug and medical associations of the country as given in three well-known publications, namely, the United States Pharmacopeia published by authority of the United States Pharmacopeial Convention; the National Formulary, issued by the American Pharmaceutical Association; and the New and Nonofficial Remedies, accepted by the Council on Pharmacy and Chemistry of the American Medical Association. The pure food law has made the first two of these publications the standard for all drugs and medicines in this country. Thus the highest quality, as well as absolute uniformity, are assured for these official preparations. This places them in a class by themselves, for the composition of a patent medicine may be changed at the whim of the maker, and this without even a change in the name of the medicine or in the claims made for it. The last-named publication, as its title would signify, is intended to supplement and bring up to date a knowledge of the merits of certain newer remedies that are not open to the criticisms outlined above and are not yet to be found among the official preparations.

We believe that the publications named above contain practically all that is of value in the field of medicine. From among the preparations that experience shows are of most value, we have selected a few simple remedies that we believe may be of use in the household. In presenting this list we wish to be understood as not urging the purchase of any medicine that is not needed. Again, if any of our customers have need of more than a few simple home remedies, such as those listed below, we are frankly of the opinion that they should consult their family physicians rather than waste either time or money experimenting with drugs, whether patent medicines or any other.

In conclusion we wish to say that in our opinion the evils chargeable to patent medicines are likely to continue so long as these products have free access to the channels of publicity and trade. Just why patent medicines are needed at all as articles of commerce, considering that non-secret medicines are better in every way is not apparent, since non-secret medicines are better, we believe that our customers will find the remedies we now offer to be more satisfactory than the patent medicines we have carried in the past.



## PRINCE GEORGE'S COUNTY MEDICAL SOCIETY.

At the regular semi-annual meeting of the Prince George's County Medical Society, held Saturday, January 10, 1914, the following officers were elected for the year 1914: President—H. B. McDonnell, M. D., Physicians and Surgeons, '88, College Park, Md.; Vice-President—J. C. Coggins, M. D., Physicians and Surgeons, '88, Laurel, Md.; Secretary—S. M. McMillan, M. D., Howard University School of Medicine, Washington, D. C., '90, Riverdale, Md.; Treasurer—W. A. Griffith, M. D., Physicians and Surgeons, '09, Berwyn, Md.; Delegate—L. A. Griffith, M. D., Physicians and Surgeons, '79, Upper Marlboro, Md.; Alternate—H. B. McDonnell, M. D., College Park, Md.

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**Marriages.**

DR. R. S. GRIFFITH, '86, of Basic City, Va., was married to Miss M. M. Matthews of Afton, Va., on February 18, 1914.

DR. EDWARD ST. CLAIR HAMILTON was married to Miss Kate Earnestine Boone, on June 3, 1914, at Organ Cave, W. Va.

DR. CHARLES BIRDSALL, '83, was married to Miss Myrtle Wilkes of Lonaconing, Md., on January 21, 1914.

DR. FRANK TILDEN MARR was married to Miss Sue Barton Dunlap, April 15, 1914, at Chillicothe, Ohio.

DR. GEORGE KIRBY COLLIER was married to Miss Clara Louise Prophet, daughter of Mr. and Mrs. Mayhew Prophet of Mount Morris, New York. The marriage took place at St. John's Church on Tuesday evening, June 16, 1914.

DR. GEORGE W. MITCHELL, Associate Professor of Diseases of the Nose and Throat, was married to Miss Catharyne Eugenia Diggs at Baltimore, June 13. Dr. and Mrs. Mitchell will be at home after August 15, at the Algonquin Apartments, 11 E. Chase Street, Baltimore.

## Obituary.

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DR. JAMES A. COLE, '86, died at his home in Timmons ville, S. C., March 11.

DR. CHARLES L. RANDELL, '89, of Portland, Me., died suddenly in Tampa, Fla., March 22, aged 55.

DR. EVERETT B. UTLEY, '83, a member of the South Carolina Medical Association, died at his home in Marion, S. C., recently, from pneumonia, aged 53.

DR. WILLIAM H. MINNICH, '90, a member of the Medical Society of the State of Pennsylvania, for eight years jail physician of York County, died at his home in Dallastown, Pa., May 1, aged 49.

DR. J. THOR ROHM, '80, for thirty years a practitioner of Redding, Cal.; once mayor of that city.; and for one term coroner of Shasta County; died at his home, March 31, from nephritis, aged 62.

DR. JOHN A. BROBST, '85, secretary to Secretary of the Navy Thompson, at the time of the settlement of the Nova Scotia fisheries claim, died at his home in Allentown, Pa., May 4, from septicemia, aged 61.

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## Personal Notes.

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DR. W. L. THOMPSON, '13, is a member of the Wisconsin State Board of Medical Examiners.

DR. JAS. S. GILBERT, '86, is the president of the City Commissioners, Bordentown, N. J.

DR. THEODORE S. CROSBY, '05, is nicely situated in the Wakefield Hospital at Wakefield, Mich.

DR. WALTER MADDEN holds the position of sheriff of Mercer Co. and is located in Trenton, N. J.

DR. J. MEADE WHITE, '96, is medical superintendent of Mountain View Sanatorium at Barnesville, Md.

DR. T. J. SHACKELFORD, '82, located at Warsaw, Ind., is the president of the Thirteenth District Medical Society.

DR. CHAS. B. MCNAIRY, '93, is the superintendent of the North Carolina School for Feeble Minded at Kinston, N. C.

DR. I. ELDRIDGE HUFF, '92, of Roanoke, Va., is a member of the City Board of Health and president of Roanoke Academy of Medicine.

Among the recent visitors at the college and hospital were Dr. A. J. Crawford, '87, Glouster, Ohio, Dr. Earl X. Thompson, '12, Oakfield, Wis. Dr. F. Roman Wise, '08, York, Pa.

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## Correspondence.

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EAST-LAS-VEGAS, NEW MEXICO, May 25, 1914.

DR. WM. S. GARDNER, College Physicians and Surgeons, Baltimore, Md.

Reserve a place at alumni banquet for me, am making a trip of over 4000 miles to get there. Want to celebrate the beginning of my 25th year of the practice of medicine.

S. H. ALLEN.

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BROOKLYN, N. Y., February 9, 1914.

*My dear Doctor.*—I want to thank you very much for the prompt reply to my little note the other day. The back numbers of the P. & S. ALUMNI JOURNAL have also come to hand and have enjoyed them very much. In order that I shall be sure to receive a copy regularly hereafter, I am sending you \$1.00, which I understand to be the subscription rate.

The reason I did not receive the copies which you sent me previously is due to the fact that I resigned my appointment to the German Hospital staff. I happened to be particularly lucky in the hospital examinations in this city last spring. I took the examinations in three different hospitals and made second place in two out of the three. For some reason, however, notification of my appointment did not reach me till after I had received

my diploma and had gone to work for Dr. Free. Inasmuch as the term at St. Catharine's is much the longer (21 months, mixed service) I gave up the German, and here I am well into my work. The first of the month I become assistant house physician. We have a good-sized hospital (350 beds) which covers a district in which there are about 200,000 people and many manufacturing plants. Our ambulance calls average about 12 a day. In a place with a service as active as this, I think you will agree that I have been very fortunate in landing here, and I am going to make the best of my opportunity too.

With kindest regards, and again thanking you for your kindness, I am

Very sincerely,

J. MOTT HEATH, '13.

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HYRUM, UTAH, March 25, 1914.

*Dear Dr. Brack.*—Am enclosing \$1.00 to apply on the Alumni JOURNAL. Am always pleased to receive it.

If there are any graduates, or any of those who are going to graduate, who would like to practice in Utah, please put them in touch with me as I know of a place soon to be vacant, that is now paying \$3000 per year. Terms will suit anybody that wants the place. Recommend some good man.

Fraternally yours,

FRANK H. CUTLER.

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LANCASTER, S. C., April 11, 1914.

DR. CHARLES E. BRACK, Baltimore, Md.

*My dear Brack.*—You will please find inclosed check for one dollar, being the amount due as per statement for subscription to the Alumni JOURNAL for the year 1914. Thanking you for sending me the JOURNAL, I am

Respectfully,

J. D. FUNDERBURK.

P. S. I think it would be appropriate to have a reunion of the '89 class (or what is left of them), say in 1915. It would be quite a pleasure to meet our old friends once more.



COLLEGE POINT, N. Y., April 12, 1914.

*Dear Doctor Brack.*—Enclosed please find money order for \$4.00 for the JOURNAL. I am located at above address and have more work than I can handle; I am doing a lot of surgery at the present time. Am always glad to hear from the dear old P. and S.

Regards to all the boys, from your friend,

HARRY M. BIFFAR, '12.

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PEORIA, ILL., April 9, 1914.

*Dear Dr. Brack.*—Inclosed please find my check for two dollars which apply on my JOURNAL account and oblige. I take the JOURNAL year after year and I never see anything from any of the old boys of '80. I sometimes wonder if I am the only one left to tell the tale, and whether all the rest have passed to the great beyond where they neither get sick nor have need for a doctor. If there should happen to be one left and you should happen to get track of him tell him that there is still one left in Peoria that would be glad to hear from him.

I am very truly yours,

J. F. COOPER, '80.

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GREEN SULPHUR SPRINGS, W. VA., May 18, 1914.

DR. CHAS. E. BRACK, Baltimore, Md.

*Dear Doctor.*—Enclosed please find five dollars to pay back subscription to the JOURNAL. For the past few years I have been receiving the JOURNAL regularly, and should have sent you pay for same, but have neglected doing so.

I appreciate your kindness in sending me the JOURNAL, although it usually brings sad news. Being of the class of '84, and looking back over the past thirty years, I find so many of my professors as well as room-mates have gone to the great beyond.

Death has also invaded my home and taken my wife and three children. I have two children left, a girl and boy.

With best wishes for yourself, and success to the JOURNAL, I am

Yours very truly,

E. E. NOEL.

GADSDEN, ALA., April 12, 1914.

DR. CHAS. EMIL BRACK, Baltimore, Md.

*Dear Doctor.*—Enclosed find check for subscription to the Alumni JOURNAL for 1914. I enjoy the JOURNAL very much and hope to see the time when it will be issued monthly.

With regards and best wishes to all, I remain      Yours truly,  
D. FANCETT.

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CHAMPAIGN, ILL., May 14, 1914.

DR. CHAS. BRACK, Baltimore, Md.

*Dear Sir.*—Enclosed please find a check for \$3.00, for my subscription to the JOURNAL OF THE ALUMNI ASSOCIATION. I am always pleased to receive the JOURNAL and hear from the graduates of the P. & S.

I notice that you publish very little about the members of the Alumni other than news of those who get married, who die, or pay their dues occasionally. How about hearing from some of the rest of the class of '95?

Very truly yours,  
JAMES H. FINCH.

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HAYDENVILLE, O., May 15, 1914.

DR. CHAS. E. BRACK, Baltimore, Md.

*Dear Doctor.*—Guess I am about four years back on my JOURNAL dues. Enclosed find check squaring up back dues with one year in advance. The world and I are on very good terms and they have babies over here almost as fast as they used to have them on sixth hall.

Very truly yours,  
H. H. TALBOTT.

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EASTVILLE, VA., April 28, 1914.

DR. BRACK.

*Dear Doctor.*—Enclosed find check for JOURNAL for 1914.

I do not think a single member is left on the staff that were connected with college while I was there. Will like to hear from the old school and her success.

Fraternally,  
W. W. WILKINS.

UNION, W. VA., April 9, 1914.

DR. CHAS. EMIL BRACK, Baltimore, Md.

*Dear Doctor.*—Enclosed please find my check for two dollars on subscription account. I feel deeply grateful to some friend for sending me the JOURNAL for a long time, and if I knew the name and address of the guilty party, I would most assuredly write to him and endeavor to show my appreciation.

Will you kindly remember me to Dr. J. W. Chambers when you see him.

Sincerely yours,

H. M. BROWN.

---

MONETT, Mo., April 17, 1914.

*Dear Doctor.*—Enclosed please find my check for \$2.00, subscription to JOURNAL 1913-14.

I am always glad to receive the JOURNAL, and to show our appreciation we should be more prompt in paying our dues. I would be glad to visit the old college again, and to meet the few that I knew while attending school, that remain in the city. With kindest regards to all I am

Yours truly,

A. S. HAWKINS, '79.

---

HUNTINGTON, W. VA., April 23, 1914.

DR. C. E. BRACK.

*Dear Doctor.*—Enclosed find check \$1.00 for the ALUMNI 1914 and best wish for continued success of the old P. & S. Did not see you and a great many other old friends of P. & S. last year while in Baltimore in June, but hope to see you this year. What about a reunion of the little squad of '98? Would be glad to have a move in the JOURNAL to see how many would attend next year, should we attempt a reunion or at least I would like to know how many are living and practicing and where located.

With regards to Drs. Blake, Beck, Cotton & Friedenwald, and rest of acquaintances of "The Faculty,"

IRA CLAY HICKS.

DALLAS, TEXAS, April 18, 1914.

*Dear Doctor.*—Please find enclosed my check for \$1.00, for the JOURNAL. Please change my address from Kaufman, Texas, to 301 So. W. Life Bldg., Dallas, Texas.

I moved to Dallas four years ago and am devoting my time to internal medicine. Am holding the chair of medicine in Baylor University (Med. Dep.), and am medical director for Sam Houston Life Ins. Co.

Will be glad to hear from any of my old friends, class of '93.

C. M. GRIGSBY, '93.

---

CAMERON, W. VA., May 5, 1914.

DR. CHAS. BRACK, Baltimore, Md.

*Dear Doctor.*—Enclosed find check for \$3.00 which credit me on account for JOURNAL—I am probably in arrears.

I may be in Baltimore during the summer, and will certainly call around to the P. & S. I have been meeting with good success, and feel that I owe it all to the good teaching and instruction at the college.

With best wishes, and kindest regards,

I remain, sincerely,

W. G. C. HILL.

---

1801 CROTONA AVE., NEW YORK, May 7, 1914.

DR. CHAS. EMIL BRACK, Baltimore, Md.

*My dear Doctor.*—In reply to yours of a recent date, I enclose herewith a check for \$1.00, for the subscription to your JOURNAL. And wish to express the pleasure over the opportunity to be in closer touch with the alumni of P. & S. through the medium of your JOURNAL.

Very sincerely yours,

D. DEUTSCHMAN.

---

UXBRIDGE, MASS., April 25, 1914.

*Dear Doctor.*—Am sending my dues to the JOURNAL for 1914. I enjoy it very much and will ask you now not to let me get behind with my dues.

With best wishes to all, I am

Yours sincerely,

J. W. LEDBURY.



WAKEFIELD, MICH., May 6, 1914.

*Dear Doctor Brack.*—I enclose check for two years subscription to the Alumni JOURNAL and will be on the lookout for the next issue.

Am nicely situated here and plenty of work, the obstetrics average five a week the year round and I often think of the old college days when you and Dr. Dobbin instilled into our receptive minds the principles and science of the "Nocturnal" art.

Wishing you and the P. & S. the best of prosperity, I remain,

Very truly yours,

THEODORE S. CROSBY, M. D.

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RICHWOOD, W. VA., May 8, 1914.

*Dear Doctor Brack.*—Inclosed find check for \$1.00 for JOURNAL. I passed the state board last July, and have been with the Drs. McClung ever since; am getting along nicely with my work. There are two other P. & S. boys here. Wishing the good old P. & S. the success it deserves, I am

Fraternally yours,

KENNA JACKSON.

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ELIZABETH, N. J., May 10, 1914.

DR. CHAS. E. BRACK.

*Dear Doctor.*—Enclosed find \$1.00 for Alumni JOURNAL. Couldn't you try to get the class of '08 together soon? I am sure most of the boys would exert themselves to meet in Baltimore if some one would start the ball a rolling.

Very sincerely,

MOE ROBINSON.

---

BANGOR, ME., June 2, 1914.

DR. CHAS. E. BRACK, Baltimore, Md.

*Dear Doctor.*—Inclosed please find one dollar for the Alumni JOURNAL for 1914.

I have secured a license to practice in Maine and am now pleasantly located in the Bangor State Hospital.

Fraternally,

L. F. NORRIS.

SCRANTON, IOWA, May 11, 1914.

DR. CHAS. E. BRACK, Baltimore, Md.

*Dear Doctor Brack.*—Inclosed find a check to cover subscription for 1914 and some back pay as well; I have been getting the JOURNAL most of the time since graduation.

Have been located at Scranton, Iowa, now thirteen years, have a good business and enjoy the work.

I would be glad indeed to hear from some of the boys of the class of '00.

S. M. KLINE, '00.

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BROOKLYN, N. Y., May 12, 1914.

*Dr C. E. Brack.*—Enclosed please find two dollars for subscription to the JOURNAL OF THE ALUMNI ASSOCIATION.

I am still on the house staff of St. Mary's Hospital and hold the position of ambulance surgeon. My term of service here expires next February.

I have received an appointment to the New York City Foundling Hospital which I am to take as soon as I finish at St. Mary's.

Have been receiving the JOURNAL up to present date.

Yours very truly,

CHAS. F. NICOL, '13.

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IMPERIAL, NEB., May 20, 1914.

*Dear Doctor Brack.*—Enclosed find check for \$1.00 for the JOURNAL, I enjoy getting it as it is my only means of keeping in touch with the college, no recent graduates being near me to my knowledge.

However, I am neighbor to Dr. Smith of Holyoke, Colo., one among the first graduates of the P. & S. and still loyal to the old school.

I am of the class of '00 and have been in Imperial, Neb., since 1901. Have had an independent general practice and while I am a real Westerner I am proud of my P. & S. diploma and class picture.

With kindest regards for your work and best wishes for P. & S. College,

I am yours truly,

E. M. STEWART.

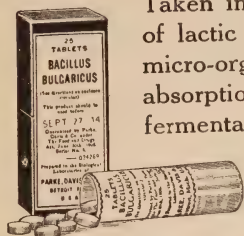
## BACILLUS BULGARICUS IN GASTRO-INTESTINAL DISEASES.

The method of treating intestinal infectious processes by implantation of the *Bacillus lactis bulgaricus* appears to be growing in favor with American practitioners. Clock's experience in upward of a hundred cases of infantile diarrhea at the Babies' Hospital of the City of New York, as related by him in the Journal of the American Medical Association of July 19, 1913, has undoubtedly played a considerable part in focusing attention upon *Bacillus bulgaricus* therapy. In the instance referred to, 117 cases were treated by the outpatient department staff of the hospital, under Clock's personal supervision. Of this number 116 recovered, the one death occurring in a severe case of enterocolitis which had persisted for two weeks before treatment began. Noteworthy among the results of the treatment were the gain in weight by the patients, despite the number of stools; the rapid change of the stools to yellow; the rapid subsidence of fever; absence of mucus and blood from the stools at the end of forty-eight hours. "The implantation method of treatment," declared the author, "has progressed beyond the experimental stage, and the results of its use can no longer be questioned or disputed. The treatment has proved of practical, clinical and scientific value; and its simplicity should appeal to every practitioner."

Parke, Davis & Co. offer *Bacillus bulgaricus* (a pure culture) in tablets, the form used by Clock and others in the treatment of gastro-intestinal diseases, numerous cases of which have been reported in the medical press. Physicians will do well to write them for literature.

# For the treatment of gastro-intestinal diseases

To the **Bacillus Bulgaricus** is attributed the power of displacing the objectionable putrefactive organisms of the colon. Taken internally it multiplies and produces quantities of lactic acid, which obstructs the growth of harmful micro-organisms, preventing diseases caused by the absorption of the products of putrefaction and butyric fermentation.



**Bacillus Bulgaricus**, in the form of tablets, such as we manufacture, has produced good results in diseases due to intestinal autointoxication. It has been noticeably successful in the vomiting and diarrheas of infants.

Let us send you a descriptive circular.

**TABLETS BACILLUS BULGARICUS:** vials of 25.

For prompt astringent, sedative effect upon the lining membrane of the alimentary canal there is no preparation of bismuth that equals the hydrated oxide suspended in water, as presented in **Milk of Bismuth, P. D. & Co.**, a palatable product, each fluidrachm representing the bismuth equivalent of five grains of bismuth subnitrate.

**Milk of Bismuth, P. D. & Co.**, is indicated in acute and chronic gastritis, enterocolitis, the diarrheas of typhoid and tuberculosis, dysentery, summer diarrhea of infants, gastric ulcer—in fact, wherever there is evidence of inflammation or bacterial infection of the gastro-intestinal tract. It is free from any trace of arsenic or other impurities and may be prescribed with full confidence that it will agree with the most sensitive stomach.



**MILK OF BISMUTH:** pint, 5-pint and gallon bottles.

Home Offices and Laboratories,  
Detroit, Michigan.

**Parke, Davis & Co.**



## JOURNALS ON FILE IN THE LIBRARY.

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1. American Journal of Anatomy.
2. American Journal of Biological Chemistry.
3. American Journal of Diseases of Children.
4. American Journal of Insanity.
5. American Journal of Medical Sciences.
6. American Journal of Physiology.
7. American Journal of Obstetrics.
8. American Medicine.
9. American Chemical Journal.
10. Annals of Otology, Rhynology and Laryngology.
11. Annals of Surgery.
12. Archives of Internal Medicine.
13. Brain.
14. Johns Hopkins Hospital Bulletin.
15. Medical and Chirurgical Faculty of Maryland.
16. Chemischen Berichte.
17. Chemical Abstracts.
18. The Clinical Journal.
19. Journal of Experimental Medicine.
20. Journal of Medical Research.
21. Journal of Pathology and Bacteriology.
22. The Lancet.
23. Laryngoscope.
24. Mitteilungen und der Medizin & Chirurgie.
25. Index Medicus.
26. Journal of American Chemical Society.
27. Journal of Abnormal Psychology.
28. Journal of Mental and Nervous Diseases.
29. American Medical Association Journal.
30. Medical Record.
31. New York Medical Journal.
32. Institute Quarterly.
33. Southern Medical Journal.
34. Ophthalmoscope.
35. Zerschrift Urologie.
36. Journal of Obstetrics and Gynecology of the British Empire.
37. Dominion Medical Journal.
38. Old Dominion Monthly.
39. The Boston Medical and Surgical Journal.
40. Journal of Alumni Association of P. & S.
41. Journal of Physiology.



# College of Physicians and Surgeons

## OF BALTIMORE.

### FACULTY

- WILLIAM SIMON, Ph. D., M. D.,  
*Professor of Chemistry and President of the Faculty.*
- JOHN W. CHAMBERS, M. D., Sc. D.,  
*Professor of Surgery.*
- NATHANIEL G. KEIRLE, A. M., M. D., Sc. D., LL. D.,  
*Professor of Medical Jurisprudence and Director of Pasteur Institute.*
- WILLIAM F. LOCKWOOD, M. D.,  
*Professor of Medicine and Dean of the Faculty.*
- GEORGE W. DOBBIN, A. B., M. D.,  
*Professor of Obstetrics and Gynecology.*
- WILLIAM ROYAL STOKES, M. D., Sc. D.,  
*Professor of Pathology and Bacteriology.*
- HARRY FRIEDENWALD, A. B., M. D.,  
*Professor of Ophthalmology and Otolaryngology.*
- ARCHIBALD C. HARRISON, M. D.,  
*Professor of Surgery.*
- CARY B. GAMBLE, JR., A. M., M. D.,  
*Professor of Clinical Medicine.*
- WILLIAM S. GARDNER, M. D.,  
*Professor of Gynecology.*
- EDWARD N. BRUSH, M. D.,  
*Professor of Psychiatry.*
- C. HAMPSON JONES, M. B., C. M. (Edinburgh), M. D.,  
*Professor of Hygiene and Public Health.*
- JULIUS FRIEDENWALD, A. M., M. D.,  
*Professor of Gastro-Enterology.*
- JOHN RUHRÄH, M. D.,  
*Professor of Diseases of Children.*
- STANDISH MCCLURE, M. D.,  
*Professor of Histology and Special Pathology.*
- CHARLES F. BLAKE, A. M., M. D.,  
*Professor of Proctology.*
- CHARLES E. SIMON, A. B., M. D.,  
*Professor of Clinical Pathology and Experimental Medicine.*
- BARTGIS MCGLONE, A. B., Ph. D.,  
*Professor of Physiology.*
- JACOB THORKELSON, M. D.,  
*Professor of Anatomy.*
- FRANK DYER SANGER, M. D.,  
*Clinical Professor of Diseases of Nose and Throat.*
- CHARLES E. BRACK, Ph. G., M. D.,  
*Clinical Professor of Obstetrics.*
- HARVEY G. BECK, Ph. G., M. D.,  
*Clinical Professor of Medicine.*
- ALBERTUS COTTON, A. M., M. D.,  
*Clinical Professor of Orthopedic Surgery and Radiography.*
- ANDREW C. GILLIS, A. M., M. D.,  
*Clinical Professor of Neurology and Psychiatry.*
- HOLLIDAY H. HAYDEN, M. D.,  
*Associate Professor of Applied Anatomy.*
- SAMUEL J. FORT, M. D.,  
*Associate Professor of Materia Medica and Pharmacology.*
- ALEXIUS MCGLANNAN, A. M., M. D.,  
*Associate Professor of Surgery and Surgical Pathology.*
- J. HALL PLEASANTS, A. B., M. D.,  
*Associate Professor of Clinical Medicine.*
- MELVIN ROSENTHAL, M. D.,  
*Associate Professor of Genito-Urinary Surgery and Dermatology.*
- HUBERT C. KNAPP, M. D.,  
*Associate Professor of Medicine and Clinical Pathology.*
- ABRAHAM SAMUELS, Ph. G., M. D.,  
*Associate Professor of Gynecology.*
- WILLIAM W. REQUARDT, M. D.,  
*Associate Professor of Surgery.*
- CALEB W. G. ROHRER, A. M., Ph. D., M. D.,  
*Associate Professor of Pathology.*
- GLENN M. LITSINGER, A. B., M. D.,  
*Associate Professor of Obstetrics.*
- GEORGE W. MITCHELL, M. D.,  
*Associate Professor of Diseases of Nose and Throat.*
- ALFRED ULLMAN, M. D.,  
*Associate Professor of Anatomy and Associate in Surgery.*
- WALTER D. WISE, M. D.,  
*Associate Professor of Surgery.*
- A. FERDINAND RIES, M. D.,  
*Associate Professor of Anatomy.*
- WILLIAM C. STIFLER, M. D.,  
*Associate Professor of Anatomy.*
- G. HOWARD WHITE, A. B., M. D.,  
*Associate Professor of Physiological Chemistry and Clinical Pathology.*
- EDGAR B. FRIEDENWALD, M. D.,  
*Associate Professor of Diseases of Children.*
- EMIL NOVAK, M. D.,  
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BALTIMORE

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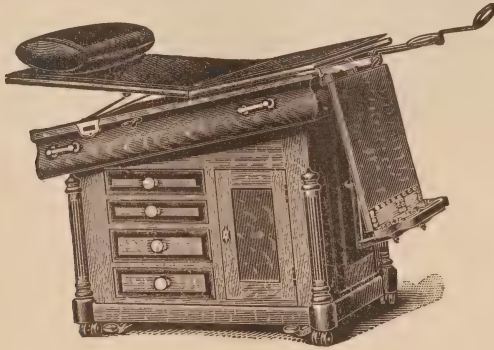
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# THE JOURNAL

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### THE CONSERVATIVE TREATMENT OF UNDESCENDED TESTICLE.\*

BY ALEXIUS McGLANNAN, M. D., BALTIMORE.

Although more than thirty years have passed since Schüller<sup>1</sup> described his operation for bringing the undescended testicle into the scrotum, and although in this time many other observers have reported series of cases and personal experiences, many surgeons still doubt the practicability of the operation and in dealing with this condition advise excision of the undescended testicle as the operation of choice.

Rawling<sup>2</sup> is the most prominent advocate of excision as the operation of choice, his conclusions being based on a study of the results of 120 cases.

Opposed to Rawling we have on the other hand numerous reports, including those of Brocha, Bevan and Coley.

The important questions to be decided regarding this operation are, first: Is the non-descended testicle worth saving? Second, Is it technically possible to bring such a testicle into the scrotum in a manner that will preserve its vitality? With these points in mind I have studied the histology of undescended testicles removed at operation, the literature on the subject and the end-results of sixteen operations in which I have placed the testicle in the scrotum.<sup>3</sup>

\* The Journal of the American Medical Association February 28, 1914. Read before the Southern Surgical and Gynecological Association, Atlanta, Ga.

<sup>1</sup> Schüller: Ann. Anat. and Surg., 1881, IV, 89.

<sup>2</sup> Rawling: Practitioner, London, August, 1908, p. 250.

<sup>3</sup> These patients came under my care in St. Agnes' and the Mercy hospitals, Baltimore, between the years of 1906 and 1913. During this time there were also admitted to St. Agnes' Hospital four patients with undescended testicles, in whom the organ was not transplanted into the scrotum. In three cases the testicles were excised. All of these were unilateral retentions, occurring in



This study is limited to cases of undescended testicle as distinguished from those of malposition of the organ.

The undescended testicle may occupy any position in the normal route of descent of the gland. Three general divisions are made, (1) abdominal, (2) inguinal and (3) puboscrotal, these divisions being made by the relation of the testicle to the internal and external abdominal rings. One form may pass into the other according to various circumstances. For instance, a testicle arrested in the inguinal canal may gradually pass down outside the external ring and even into the normal position in the scrotum. The last-mentioned result is rarely observed except in childhood. Or, an inguinal testicle may be forced back into the abdomen by external violence or muscular contraction.

In the older literature practically all the attention is concentrated on the occurrence of malignant change in an undescended testicle, and consequently excision was the only treatment considered. Later study shows the frequency of malignant disease in undescended testicle to be less than was supposed and nearly always to occur in cases of inguinal retention, in which the greater exposure to trauma explains susceptibility to malignant change. As will be shown later, it is in this inguinal form of non-descent that the operative treatment is most successful in securing both normal position and good nutrition for the testicle.

The histology of the undescended testicle varies in wide limits. A very complete study of the pathology of the undescended testicle has been published by Uffreduzzi.\* He distinguishes four types of undescended testicle: (1) those with a few signs of disturbed development; (2) those with marked disturbance; (3) those showing distinct senile retrogression, and (4) those consisting largely of edematous fibrous interstitial tissue.

The changes occurring at puberty in the normal testicle seem delayed in the undescended gland. This is indicated for the most part by the persistence of the interstitial cells in large numbers. In the specimens which

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young adults, and were complicated by hernia. One of these excised glands contained several tubules showing active spermatogenesis. The others were atrophic. The fourth patient was a child of 10 with a left-sided retention. There was no hernia and at operation a most diligent search failed to reveal the presence of a testicle or vas deferens on the affected side. The cremaster muscle was well developed, but the internal ring was entirely closed. We have had no case of malignant tumor in an undescended testicle.

\*Uffreduzzi: Arch. f. klin. Chir., 1913, C, 1151 and CI, 150.

I have examined, spermatogenesis was observed in three of the seven cases in which the testicle was removed from young adults. This proportion of spermatogenic activity is about the same as that reported by Odiorne and Simmons,<sup>\*</sup> who found adult spermatozoa in four of nine testicles examined, and a few tubules containing spermatogonia in one of the remaining five cases. In the remaining cases the histologic picture resembled the infantile type of testicle four times, and the senile testicle twice.

Imperfect development of a portion of the genital organs in embryonic life gives an abnormal testicle, which does not descend but is retained in the abdomen. With such a testicle the inguinal canal on the same side is usually closed tight, the scrotum atrophied, and the vas and seminal vesicle insignificant. This form of undescended testicle cannot be improved by surgery and seldom requires any treatment. The glandular epithelium, if formed at all, soon degenerates and is absorbed, leaving a fibrous mass to represent the testicle.

On the other hand, there are undescended testicles which have the normal structure of the infantile testicle, but which fail to develop into the adult type when allowed to remain in the abnormal position.

Finally, there are undescended testicles in which spermatogenesis and the other changes characteristic of the adult form develop at puberty, but in which senile changes resulting in atrophy occur very early, unless the testicle is brought into its normal position.

In the two varieties last named the testicle is almost always associated with a congenital inguinal hernia and has a normally developed vas and seminal vesicle. They are usually situated in the groin, or in the abdomen close to the internal abdominal ring. The spermatic vessels and the vas with its blood-supply may be contained in a mesentery-like fold of the peritoneum, a persistence of the fetal mesorchium; but there is no regular relation of position of testicle with histologic structure or development, and the abdominal or inguinal gland may be fibrous and entirely undeveloped.

These three varieties are examples of the views of Hunter, of Curling and of Monod and Arthaud, respectively, on the cause of the imperfect function of the undescended testicle.

<sup>\*</sup> Odiorne and Simmons: *Ann. Surg.*, December, 1904.

Whether or not a gland of the infantile type will develop all of the adult characteristics after transplantation into the scrotum is not certain. The transplantation undoubtedly is a factor in the production of those changes which are associated with the development of secondary sexual characteristics.

It is difficult to arrive at a conclusion regarding the subsequent development of the spermatogenic function in these infantile glands. Experimentally, with dogs, Griffiths<sup>6</sup> has proved the converse to be true, namely, that when the fully descended testicle is replaced in the abdomen the gland becomes soft and small and never shows active spermatogenesis. Schmidt<sup>7</sup> shows that when the immature testicle is transplanted into the abdomen, it develops to the extent of forming spermatocytes, but then gradually degenerates. In man it is probable that spermatogenesis when developed persists for only a short time, and that the testicle rapidly passes into the senile form.

It is generally agreed that the testicular changes incident to puberty are delayed or prevented by the faulty position of the undescended testicle. It is, therefore, important to transplant such testicles into the scrotum before puberty. Spontaneous descent may occur in young children, but is rare after ten years. It is at this age, therefore, that operation becomes necessary, and for double non-descent imperatively so, because unless transplanted, both glands are very likely to remain infantile or become functionless.

For single non-descent I think that the operation is almost equally important. Disease or injury of the other testicle may occur at any time and so render it useless, or even require its removal.

After puberty the undescended testicle is unlikely to develop adult characteristics. In most cases even after transplantation into the scrotum it does not develop further, and often atrophies. There are cases, however, in which the opposite result occurs. This is proved by the occurrence of active and potent spermatozoa in the semen of persons in whom both testicles have been transplanted after puberty. In one of my cases the patient was 30 years of age at the time of operation. Both testicles were

<sup>6</sup> Griffiths: *Jour. Anat. and Phys.*, 1893, XXVII.

<sup>7</sup> Schmidt: *Beitr. z. klin. Chir.*, 1912, LXXXII, 36.



in the abdomen and were complicated by hernias. Both were brought into the scrotum, after division of the spermatic vessels. Eighteen months after the operation the patient became the father of a child. Whether this case is one of those in which the undescended testicle had taken on the changes of puberty and possessed spermatogenic function at the time of operation, or whether the testicle has developed in its present position, cannot be decided. This much at least is proved: the operation did not destroy the vitality of the testicles, and a recent report from the patient states that their form has been preserved.

In operating for the relief of undescended testicle we find that the obstacles to our placing the gland in the scrotum consist of adhesions between the structures of the cord and the vaginal process of peritoneum, with more or less tortuosity and adherence of the spermatic vessels. These barriers must be removed, if the gland is to be properly placed in the scrotum.

Unless the structural shortening of the cord is overcome by division of these contracted tissues, no fixation will retain the testicle in the scrotum. The Bevan<sup>\*</sup> operation furnishes a method by means of which we are able to accomplish this end. The ultimate success of the Bevan operation depends on the great factor of safety provided in the blood-supply of the testicle. Either the spermatic or the deferential artery alone seems able to supply sufficient nourishment for the vitality of the testicle. Therefore, in cases in which short spermatic vessels make a persistent barrier to the transplantation of the testicle into the scrotum, these vessels may be divided without necessarily destroying the function of the organ.

Following is a description of the operation done in the present series:

After the usual skin disinfection, the inguinal canal is opened as in the hernia operation. The testicle, if situated in the groin, is lifted up and by gentle traction the cord is put on the stretch. The peritoneal covering is incised around the cord as high up as is possible and the spermatic vessels separated by blunt dissection from their peritoneal covering inside the abdomen. The vessels are now straightened out by dividing all adhesions.

In many cases this loosening gives sufficient mobility to the cord to bring the testicle into the scrotum. Should this prove true the tunica vaginalis is turned back over the testicle and the gland is placed in the scrotum. Usually it is necessary to make a pocket for its reception, by pushing the finger or a clamp into the scrotum.

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<sup>\*</sup> Bevan, Arthur Dean: The Surgical Treatment of Undescended Testicle, The Journal A.M.A., September 19, 1903, p. 718.



When the testicle is retained inside the abdomen, the peritoneal cavity is opened through the hernial sac, which is usually present, or the wall is incised in the region of the internal ring. The testicle may be found in the abdomen, with the structures of the cord in the canal; or all the vessels and the vas may be retained in the abdomen. In the former event the testicle is drawn out and an attempt is made to lengthen the cord by division of adhesions, etc., as just described. With the latter condition it is usual to find a mesorchium, the vessels showing plainly through the peritoneal coverings. This mesentery-like structure fixes the testicle to the abdominal wall and must be divided in order to gain sufficient mobility for the transplantation. The testicle with its mesentery is brought out through the wound and the vas with its vessels separated from the spermatic group. The two sets of vessels are easily distinguished coming from different directions inside the peritoneal fold.

The spermatic vessels are doubly ligatured and divided. The peritoneum is split so as to bring the vas and its vessels with the testicle into the inguinal canal and the scrotum. Enough peritoneum is retained to form a coat for the testicle.

The division of the spermatic vessels removes the greatest factor in the shortening of the cord and should be done whenever the separation of adhesions, etc., do not give sufficient length to permit the testicle to rest easy in the scrotum. A slight gain may be obtained by shortening the distance from the abdomen to the scrotum. This is accomplished by dividing the floor of the canal down to the deep epigastric vessels. This was done in one case and thereby the spermatic vessels were preserved. I have never been required to ligate the epigastrics and carry the opening of the floor beyond them, as recommended by Davisson,<sup>\*</sup> although this maneuver should be considered before resorting to excision of the testicle.

In closing the canal a stitch is taken through the pillars of the external ring and the cord, fixing the latter structure. In other respects the closure is the usual one made for inguinal hernia without transplantation of the cord.

In my experience the immediate result has been good in all cases and the ultimate result, for periods ranging from three months to seven years, in all cases has been satisfactory. There has been no gangrene of the testicle even in the cases in which the spermatic vessels were divided. All the hernias are cured. No testicle has retracted out of the scrotum, and there has been no gross atrophy of the transplanted organ.

All sixteen cases were associated with hernia. One hernia was strangulated. The spermatic vessels were divided four times. There were four bilateral cases, three left-sided and nine right-sided single retentions. Of this number ten patients have been examined or heard from during the past two months. The bilateral cases have been watched very carefully and three of the four have reported. One of them is the adult mentioned

<sup>\*</sup> Davisson: Surg. Gynec. and Obst., 1911, XII, 283.

above. The two boys were 12 years old at the time of operation. Both were quite undeveloped and showed absence of pubic hair and other secondary sexual characteristics. Both have since developed these characteristics. In one the change occurred very promptly and was marked four months after the operation. The other boy required nearly a year for the change to be noticeable. These boys were operated on fifteen and twenty-four months ago, respectively. In the earlier operation the spermatic vessels on one side were divided.

In the remaining seven cases the patients were operated on from three months to seven years ago.

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## ROUND LIGAMENT SUSPENSION OF THE UTERUS.

### SIXTY-TWO CASES.

BY WILLIAM SISSON GARDNER, M. D.,

*Professor of Gynecology, College of Physicians and Surgeons, Baltimore,  
Gynecologist to Mercy Hospital.*

This paper is based upon the reports from sixty-two cases of retrodisplacement of the uterus that have been treated by round ligament suspension. A part of these suspensions was done after the method described by Gilliam, the remainder by bringing the round ligaments up through or near the inguinal canal. In all instances the round ligaments after being drawn up were attached to the fascia over the recti muscles. The cases that had other lesions that predominated over the retrodisplacement were omitted. The other lesions treated in connection with the correction of the displacement are noted.

The records were written by hospital internes and are necessarily more or less incomplete, and no doubt more careful inquiry would have made some difference in the recorded symptoms, but they are sufficiently correct to give the important points in about their relative proportion.

The case of the longest standing was operated upon twelve years ago; the most recent one over one year ago. No cases have been included that

have not been personally examined or been heard from within the past few months.

Of these patients forty-seven had had one or more children, fifteen were nulipara. In an estimation on a large number of cases made several years ago it was found that twenty-five per cent of retrodisplacements occurred in women who had not borne children. In the present series very nearly the same proportion is preserved.

Thirty-eight patients complained of pain at the menstrual period. In eighteen of the thirty-eight cases the pain was an increase of their general backache and pelvic pain that they suffered from more or less between periods. In the other twenty cases the pain was of a different character. It was a sharp, severe pain beginning from one day to one week before the flow, usually continuing throughout the flow, and in a few instances recurring after the flow.

Twenty-one patients had severe occipital headache just before or during the menstrual period.

There was an increase in the loss of blood at the menstrual period in twenty-one patients. This increase is commonly a prolongation of the period and a relatively small daily increase in quantity; the total amount of blood lost during the menstrual period being considerably more than normal, but no profuse hemorrhage.

In nineteen cases the menses were irregular. In a few instances the periods came farther apart than normal, but in most instances the periods were less than twenty-eight days apart.

Thirty-nine patients had backache and thirty-one had pain in the pelvis. Only one patient complained of the severe intermenstrual pain.

Twenty-five of these patients were markedly constipated. It is well known that in a small percentage of retrodisplacements, the enlarged displaced uterus causes mechanical constipation by pressure upon the rectum. No doubt the vast majority of cases of constipation associated with retrodisplacements have no direct relation to the retrodisplacement.

The records show that seventeen of these patients complained of poor appetites. One of them was nauseated when on her feet. Another one became nauseated at each menstrual period. The patient who became nauseated when on her feet had both ovaries prolapsed.

Micturition was frequent in seventeen of these patients and the pain with micturition occurred only five times. The frequent micturition in most cases of retrodisplacement is due to the pressure of the base of the bladder against the symphysis by the cervix. This symptom disappears promptly when the pressure is relieved.

In sixteen cases there were pronounced indications of disorders of the nervous system. In most instances the patients stated that they were "very nervous"; were easily tired out; became unduly excited over trifles, or were very irritable. In two there were definite epileptiform seizures at the menstrual periods. The disturbances of the nervous system also undoubtedly account for many reflex stomach disorders which prove a great stumbling block to the gastrologist if the underlying cause is not recognized.

As was stated in the earlier part of this paper only those cases are included in this list in which retrodisplacement was considered the predominant lesion, but in addition to suspension the following supplementary operations were performed:

Laceration of the cervix, repaired; three cases. Lacerations of the perineum, repaired; eighteen cases. The uterus was dilated and curetted twenty times. In twelve cases, one or both ovaries were suspended. In four cases one ovary was removed. Both tubes were removed in one case. The appendix was removed in twelve cases. There was one case of ventral hernia, and one relaxed anterior vaginal wall repaired.

Of these patients forty-seven were entirely relieved. In six of the cases the uterus remained in position, but the symptoms were not relieved. In seven cases there were marked improvement, but not entire relief. In two patients the symptoms were not improved, but it is not known whether the uterus remained in position. In not a single instance where the patient has been examined again, has the uterus been found out of position.

The seven patients who have been examined and the uterus was found in good position, but the patients were still having trouble, form an interesting group and deserve more than passing attention.

Patient No. 2267 was a small, badly nourished, over-worked, neurotic woman. She had a retrodisplacement but was advised at the time that the correction of the displacement was only an incident in her treatment and that what she needed was a thorough rest cure. As soon as she could get



on her feet after the operation, she left the hospital. Since then she has not followed the course advised and has never become strong.

Patient No. 1882 returned a little over a year after her suspension, and stated that she was menstruating every two and a half to three weeks. The flow was scanty but very painful. The pain continued about one week. Between periods there was a great amount of pelvic pain. She also complained of trouble with her rectum, vagina, and a pain in the left side. Physical examination showed the uterus to be in a normal position, but it was tender on pressure. A course of local and general treatment extending over a period of two months, gave no relief. At the end of that time a supra-vaginal hysterectomy was done, since which time she has been quite comfortable.

In 1905, patient No. 593 had her perineum repaired, both ovaries suspended and the round ligaments shortened. In 1906 she had recurrent attacks of very severe pelvic pain. The left ovary was found to have become very much enlarged and was removed. Pains having recurred again in 1909, a supra-vaginal hysterectomy was done, since which time the patient has been comfortable. At this operation the uterus was found to be in a good position, slightly enlarged, but there were no adhesions and nothing was found to account for the very severe attacks of pains from which she had suffered.

Patients No. 2082, No. 1820, and No. 1727, all have the uterus retained in good position, but their complaints have not been materially relieved.

Whenever the diagnosis of retrodisplacement of the uterus is made, the question as to the method of its treatment follows immediately. While it is true that an occasional retrodisplacement is seen that gives rise to few if any symptoms, the great majority of them cause so much discomfort that the patients must be given relief.

Many of them can be relieved temporarily and a few of them permanently by the use of a pessary. The pessary is the most useful in cases of acquired retrodisplacements where the pelvic floor is intact and the treatment is begun soon after the displacement has occurred. In acquired retrodisplacements of long standing and in congenital retrodisplacements, the pessary is of very little value. An occasional case in either of these groups may derive some benefit, but in the vast majority of them the

pessary is useless. It of course follows that in cases where the pelvic diaphragm is defective, either from injury or from failure in development, the pessary cannot be used to advantage. In a considerable percentage of cases in which the pessary apparently gives relief, this relief is only temporary; because the relaxation of the vaginal outlet has the tendency to increase with age, so the support that the pessary must have, becomes more defective, until such a time arrives that the pessary can no longer be retained.

In my experience the pessary is almost useless in retrodisplacements in nulipara. In a few of them the uterus can be kept in position, but the symptoms do not disappear. This condition is well illustrated by No. 1970. She was a young married woman who came to me on account of sterility and an exceptionally severe dysmenorrhea. For five months I endeavored to relieve her without resorting to an operation. The uterus could be kept in position, but the dysmenorrhea grew worse. In March, 1911, one ovary was resected and both ovaries were suspended and the round ligaments of the uterus shortened. Her dysmenorrhea was entirely relieved, and within a year she became pregnant.

In all those cases which cannot be relieved by the pessary it is necessary to resort to some operative procedure.

Many operations to replace the uterus and secure it in the correct position have been devised. The operation of ventral suspension which was introduced in this country by Dr. Kelly, was very popular for a number of years, and a very large number of them were done by many operators. The frequent failure to retain the uterus in position, the occurrence of the ventral fixation in place of the intended suspension, and the complications during pregnancy and labor in patients upon whom this operation had been done, have caused it to be abandoned by nearly all surgeons.

Among the various round ligament suspension operations that are most widely done are the Baldy-Webster operation and the Gilliam or some modification of the latter. Polak reports that out of three hundred and seventy-six cases, operated upon by the Baldy-Webster method, in thirty-two cases the uterus has relapsed and was found retroverted and prolapsed, carrying the ovaries with it. Ten have lateral version of the uterus and complain of pain in the side toward which the fundus is turned. Sixteen have prolapsed cystic ovaries. Twenty-six have had thrombosis of the

pelvic veins which has extended to the femoral and saphenous, which gives a morbidity larger than he has had from any other intra-abdominal operation.

In conclusion Polak states that the Baldy-Webster operation has a definite field of usefulness in properly selected cases of retro-deviation of the uterus when intra-abdominal shortening of the round ligaments is employed. It should not be selected for heavy uteri with the cervix in the axis of the vagina. Its success depends on a small uterus, a cervix pointing backward, equally developed ligaments and a careful technic.

In the Gilliam operation the abdomen is opened by a short median-incision just above the pubis. The fat and skin are dissected off the sheaths of the recti muscles on both sides. A small opening is then made directly through the rectus muscle on each side of the abdominal incision and a loop of the corresponding round ligament is drawn up through this opening and stitched to the fascia of the rectus. The shortening of the round ligaments by this method pulls the fundus of the uterus upward and forward. It has the defect of leaving artificial pillars extending from the uterus to the abdominal wall and the traction on the uterus is not in the normal line of the round ligaments.

A slight modification of this operation obviates both of these objections. If the lateral dissection is carried beyond the outer border of the rectus muscle a curved mouth-toothed forceps can be inserted through the inguinal canal and carried down beneath the peritoneum to a point near that portion of the round ligament that is to be brought up. The forceps are then made to puncture the peritoneum and the round ligament is grasped about one and a half inches from the uterus and the forceps are withdrawn, bringing with them a loop of the ligament which is stitched to the fascia in such a way as to firmly fix the round ligament in this position and to close the opening made in the fascia by the forceps. The same procedure is carried out on the other side.

By this method the traction on the uterus by the round ligaments is very nearly in the normal line of the round ligaments and no artificial pillars are left in the abdominal cavity. There is no interference with the circulation in the broad ligaments and there are no intra-abdominal stitches or other traumatisms to favor the formation of adhesions.

FURTHER EXPERIMENTS ON THE PATHOLOGICAL EFFECT  
OF ALCOHOL ON RABBITS.

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It is a well known fact that certain toxic agents given animals induce peculiar changes in the liver, and that when these substances have been given over a considerable length of time interstitial changes are apt to be produced. The results of such investigations have not been satisfactory inasmuch as the lesion produced in the liver does not possess the features characteristic of cirrhosis found in human beings. While alcohol is believed to be the cause of cirrhosis of the liver, yet this disease occurs in individuals who have not been habituated to the use of this stimulant, and it is found even in children. In a few instances the continuous administration of alcohol in animals is said to be the cause of actual cirrhosis. Certain investigators, notably Straus and Blocq, found an increase in connective tissue in a few animals fed for a long time on alcohol.

Mertens placed rabbits in an atmosphere saturated with alcoholic vapor for many months. In those who survived over a long period, a new growth of connective tissue was observed around the portal spaces. Afanassijew as well as V. Kahlden was unsuccessful in producing cirrhosis by administering alcohol to animals for considerable periods of time. Friedenwald found an increase of connective tissue in a few rabbits which had received from 5 to 8 cc. of alcohol daily for four years. In many animals fed in the same way and for the same period of time no changes were noted. Numerous attempts had been made to produce cirrhosis of the liver by the continuous administration of phosphorus, by first inducing a degeneration of the liver cells, producing a marked degeneration of the hepatic cells with necrosis, which is followed by a production of connective tissue. Aufrecht, Dinkler and Ackermann have produced experimentally an increase in connective tissue by administering small doses of phosphorus to animals. Aufrecht was able to produce a very nodulated liver by means of this drug.

It is a well known fact that when chloroform is administered for a few



hours daily, and repeated on successive days, a certain number of liver cells undergo necrosis, especially those around the central  $\frac{2}{3}$  of each lobule. After the recovery the repair takes place quickly and is nearly complete after two weeks, while the liver becomes perfectly normal within three weeks. Some investigators, however, have produced actual cirrhosis in animals by injecting small quantities of chloroform subcutaneously over very long periods. Herter and Williams observed the same condition in dogs from inhalations of chloroform when given for an hour a day for 24 days. By administering chloroform by the mouth the same effect may be produced. Opie has shown that with a dose of  $\frac{1}{2}$  to 1 cc. per kilogram of body weight given on three successive days, a most marked necrosis is apt to be established.

The peculiar relation of bacterial infection to the liver had always been a matter of great interest. This is well shown in the experiments of Welch and Blackstein, who demonstrated that colon bacilli as well as typhoid bacilli when injected in the ear vein of rabbits are deposited for some time in the gall bladder. Buxton and Farrey have shown that the typhoid organism when injected in the peritoneal cavity is soon deposited in various organs, but in much larger numbers in the liver. In individuals dying of acute bacterial infections it is not uncommon to find a central necrosis of the lobules of the liver. Opie noted this condition in the liver of a child dying of general peritonitis following gonorrhea and suggests that the infrequency of this lesion in comparison to severe bacterial infections denotes the presence of some undetermined factor. Opie also demonstrates that the effect of this bacterial infection may be modified by the presence of toxic substances entering the blood. He administered to dogs and rabbits chloroform or phosphorus on successive days followed by the injection in the ear vein of a few cc. of a 24 hour bouillon culture of bacteria (colon, streptococcus pyogenes). After the death of the animal, which occurred about the twenty-fourth day, masses and strands of fibrous tissue containing tortuous hypertrophied and newly formed bile ducts were observed. A quantity of chloroform which alone can only cause fatty degeneration has been shown by Opie to produce in association with a single dose of the colon organisms advanced cirrhosis of the liver within 24 hours. This cirrhosis is more advanced within 24 days than that produced by larger doses of chloroform alone when taken over a period of a number of months.

Opie had also demonstrated that the combination of bacteria and the poison acting with greater intensity reproduces a lesion closely resembling that observed in acute yellow atrophy in man, *i. e.*, necrosis and hemorrhage; accumulation of wandering cells; formation of connective tissue replacing parenchymatous elements; a new formation of bile ducts. These are the marked features of these changes. His experiments have conclusively shown that bacteria in combination with a poison, as chloroform or phosphorus, may cause changes which neither the poison nor the bacteria alone can produce, and that the bacterial infection is an important factor in the development of cirrhosis of the liver. In our experiments with alcohol published some years ago we demonstrated that when 5 to 8 cc. of alcohol were given rabbits over a long period of time, in but 5 out of 120 rabbits could cirrhosis be produced. It is therefore evident that there is another factor, besides the alcohol, which is responsible for the production of this lesion.

Inasmuch as Opie was able to produce actual cirrhotic conditions by a combination of a poison (phosphorus, chloroform) and bacteria, it occurred to us that it might be possible to induce alcoholic cirrhosis in a similar manner.

In our experiments 12 rabbits were utilized. These animals were fed on daily doses of 10 to 15 cc. of whiskey or absinthe diluted before feeding with an equal quantity of water. In order to be certain of the exact dosage, these substances were introduced into the stomach through a catheter. In from 5 to 15 minutes after feeding the animals showed signs of intoxication, the movements became sluggish, and unsteady, and in many cases the animals were unable to move. The intoxication passes into a complete stupor, from which the animal cannot be aroused; it awakens in from 3 to 5 hours, and appears normal the following day. These conditions vary much with the dosage, weight of the animal, and individual peculiarities.

The quantity of alcohol consumed by the animals varied very much, according to their size, and strength, and the duration of life. There were three rabbits that outlived the rest; these were utilized for bacterial injections into the ear vein, after having had daily feedings for 11 months. The animals were in good condition, having gained in weight.

Rabbit No. 1	had consumed	3960 cc. of whiskey.
" " 2 "	"	3450 cc. of whiskey.
" " 3 "	"	2960 cc. of absinthe.

At the end of 11 months 1 cc. of pure bouillon culture of pneumococcus was injected into the ear vein of the three rabbits; the animals remained well, and no apparent injury resulted. One week later 0.5 cc. of a pure culture of streptococcus pyogenes was injected into the ear vein of the same three rabbits, the animals were made somewhat ill, but recovered in a few days; another injection of 1 cc. of the same culture was injected the following week; they all died the following night. At autopsy aside from a slight congestion of the liver no pathological change was noted. There was not the slightest indication of any cirrhotic condition of the liver. It is therefore evident that alcohol alone or the combination of alcohol and bacterial infection is not sufficient to account for the production of cirrhosis of the liver in animals, and that there still remains another factor to account for the phenomenon, which has not as yet been determined.

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### THE PROPHYLAXIS OF MEASLES.\*

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Of all the common diseases of childhood, measles is perhaps the most neglected when it comes to the standpoint of treatment, and this is one reason that the mortality in this disease is as high as almost any of the diseases of early life. In the United States measles causes over 12,000 deaths a year, and there are undoubtedly many more fatalities which are recorded under the heading of pneumonia or some of the other complica-

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tions. It should be remembered that the registration area of the United States does not cover much more than half of the entire population. Of measles Sydenham said, "they do more to fill Charon's boat than the smallpox itself." There are considerable variations in the mortality from measles and this varies with epidemics, most of which are peculiarly fatal, and in looking over statistics one finds that the death rate per 1000 inhabitants ranges from 3.8 to twenty-seven. If one considers the disease at a little closer range, one will find that in private practice among the better classes of people it is not a very dangerous disease in children over two years of age, but that in the poor, especially in overcrowded institutions for infants and children, it is an exceedingly fatal malady. In hospitals for children the mortality may run as high as forty to forty-five per cent, and at times even these figures are exceeded. Age is a very important factor and we find that there are but few deaths in very young children; that is, in infants under six months of age. This is due to the fact that at this age measles is comparatively rare, but from six months to two years of age, the deaths increase along with the increasing number of cases, and after two years, the incidence and the deaths decline until about the fifth year, after which deaths from measles are comparatively infrequent, although fatalities may occur from complications or sequelæ. If one makes a study of the cases and deaths as regards season, it is noted that in cold, wintry weather more children succumb than in the summer; this is due to the fact that in winter the fresh air is carefully excluded and overcrowding is liable to take place. We also find that children living in the city are more liable to die than those in the country, partly on account of the lowered resistance, and partly on account of the overcrowding and lack of fresh air. A child is more liable to die if it is in poor health at the time that measles affects it than if it is strong and robust. Occasionally measles kills from the intensity of its toxin, and these deaths occur early, but as a rule the death is caused by a complication usually, either of the respiratory or gastrointestinal tract, although sometimes lesions in other organs may be responsible.

There are several lessons to be learned in considering the foregoing facts, not new lessons it is true, but unheeded ones. The first concerns the prevention of measles. Measles is so easily spread, and as almost every child sooner or later has the disease, many parents, and in fact many



physicians, pay little or no attention to its prevention. Much can be done to prevent the spread of measles, also to prevent fatalities. One of the greatest factors in lessening the mortality is to prevent children under five years of age from contracting it. In place of trying to shield young children, one often sees them purposely exposed to the disease in order that they may get it and get it over with. Many parents have a feeling that if a child eventually is going to get measles, it might as well be allowed to get it early as well as late, but I have already pointed out the greater mortality of early childhood, which is an all powerful incentive to prevent infection in the very young.

The prevention of the disease is perhaps not as difficult as we imagine. If a child is isolated promptly in what is real isolation, measles is not particularly liable to jump its boundary. The fault usually is that the isolation is not carried out in a satisfactory manner. In some of the newer hospitals where infectious diseases are treated, it has been found that measles may be isolated in box compartments, in which the partitions do not reach the ceiling in the room, but in which a strict medical asepsis is carried out by conscientious nurses and physicians. With our shocking disregard of the so called "minor" diseases in this country, and with little or no municipal provision for their care in properly constructed hospitals, the problem becomes one for the individual physician and the individual family. One reason for failure up to the present time is the fact that measles cannot be properly isolated in apartments, especially where there is any overcrowding; but while this is true as regards any individual family, much can be done by keeping out children of other families, and adults as well, on the principle that the fewer persons that come in contact with a contagious disease, the fewer are liable to contract it.

The second point in the prophylaxis of measles is the closing of schools in the face of threatened epidemics. This protects the young child indirectly in that it lessens the danger of the older children in the family becoming infected and so bringing the disease back to the home to start a new focus of infection. Raffle has made a study of this question, and the effect of closing the schools and his figures are of such interest that I reproduce here the short review of his article in the *Lancet* for February 3, 1912, that I made for *Progressive Medicine* for March, 1913.

In this epidemic 4470 children were exposed to infection; of these 2180 were susceptible to the disease; of these 853 were infected, 638 cases occurring during the time that the children were at school, and 140 during the period of fourteen days after which the school was closed, that is, 778 cases which might have been infected either at school or in home life. Thus, at the time the schools were closed, there were still more than 1400 children who were susceptible to measles, but only 75 of these children actually contracted the disease. These figures show quite conclusively the enormous value of closing the schools in combating epidemics of measles.

TABLE SHOWING THE INFLUENCE OF SCHOOL CLOSURE IN AN EPIDEMIC OF MEASLES.

Name of school.	Extent of closure.	Average attendance.	Number of susceptible children.	Number of cases before closure.	Number of cases within 14 days.	Number of cases more than 14 days after.
Westoe .....	All	480	240	77	27	17
Ocean Road .....	All	380	190	51	16	7
St. Hilda's .....	All	170	80	19	1	2
St. Stephen's .....	All	175	80	18	0	5
Gilbert Street .....	All	400	200	71	28	20
Barnes .....	All	440	210	37	8	0
Baring Street .....	All	450	220	49	16	1
Mortimer Road .....	All	520	250	76	18	3
W. Harton .....	All	200	100	28	6	1
Cone Street .....	All	310	150	22	1	8
H. Trinity .....	All	345	170	51	10	6
Laygate Lane classes 5, 7, and 8..		150	70	21	0	2
St. Bede's classes 6 and 7.....		100	40	28	1	2
Stanhope Road class N2.....		50	20	22	0	0
Mowbray classes 7, 8, 9, 9A, and 10		300	160	48	8	1
Total .....		4,470	2,180	618	140	75

The question naturally arises, what is necessary to prevent the spread of measles? The answer is, to prevent susceptible individuals—practically everybody is susceptible who has not had the disease—from coming in contact with individuals who have the disease or with objects that have recently come in contact with such an individual. Measles is transmissible from the beginning of the catarrhal symptoms, and there is great difficulty in the practical prevention, as the disease is usually not recognized until the eruption appears. Consequently in many instances the infection takes place before any attempt at isolation is made, and the date on which measles develops in the other members of the household or institution proves this. It is manifestly impossible to isolate every child who has a coryza and a sore throat, but it is not at all impossible to keep such children out of school, particularly if fever accompanies the

catarrhal symptoms. To be effective, the isolation must be such that susceptible children do not get into immediate contact with, or in the neighborhood of, the sick child; such isolation is difficult to provide in the average home as regards the other members of the family, but not for those living out of the house. This is very easy to secure in an ordinarily well run hospital. In schools, particularly boarding schools and institutions for children, much will be accomplished by prompt isolation of all sick children until the diagnosis is made; many institutions are now providing rooms or wards for the isolation of suspects, finding it much cheaper than to cope with the disease after it develops.

In this country we are very far behind the times in the matter of providing hospital facilities for the so called minor infectious diseases, upon which millions of dollars each year are spent in care rather than in prevention. In overcrowded tenements and houses, the only efficient isolation that can be obtained is by the prompt removal to a special hospital. Boston is perhaps provided for in this respect better than any city in the United States, yet it has provision for only sixty cases of measles, if I am correctly informed. The most modern hospitals for infectious diseases are built so that they may be used for more than one disease, especially in case of need, and some idea as to how far behind some of the other cities are may be obtained from comparing what is done in Glasgow, Edinburgh, and London, where there is accommodation for acute infectious diseases for one in every 10,000 of the population. In Boston there are accommodations for only three out of every 10,000, and in most American cities the beds available for infectious diseases under ordinary conditions practically do not exist.

In order to be of any service, the isolation should be started early, and in order to do this it is necessary to make at least a tentative diagnosis. The problem of diagnosis will depend on whether the child is under the supervision of a physician or not. In schools and in institutions for children in which there is anything like adequate medical inspection, the early cases of measles may usually be determined by a number of diagnostic methods, if not with certainty, at least with sufficient accuracy to isolate the child pending further developments. If measles is in an institution already, or if there is much just outside of it, and there is reason to believe that infection may occur, the children may



be examined with reference to several signs, the first of which is loss of weight. This begins as early as the fifth or sixth day before the appearance of the catarrhal symptoms, and generally amounts to about ten ounces for children up to four years of age, and in some the loss may amount to as much as three ounces a day. This loss is independent of age or the severity of the attack. It is very easy to weigh a large number of children, one after the other, and have their weights recorded and compared with the weight on the previous day. It should be remembered, however, that to be of any value, the weights must be taken at the same time of the day and under the same conditions as regards clothing, meals, and drinking water, and the emptying of the bladder and the bowels. If strict attention is not paid to these points, the weighing will not be of much value.

If there is loss of weight or any other reason to suspect that the child is getting measles, an examination of the blood may be made; it will be found that during the incubation period there is a leucocytosis. It should be borne in mind, however, that this leucocytosis lasts only into the first day or two of the stage of invasion, when the leucocyte count falls to normal or even below. When the stage of invasion is reached, the disease may be suspected if there is fever, especially if accompanied by catarrhal symptoms affecting all or almost all of the mucous membranes. Conjunctivitis, coryza, pharyngitis, and bronchitis are usually all very apparent. In addition, there is almost invariably marked drowsiness. Heim, many years ago, called attention to the odor of measles, which has often been described as like that of a mouse trap, and while there is undoubtedly a more or less characteristic odor about measles patients, this mouse trap odor is usually due to lack of care and cleanliness rather than anything characteristic of the disease.

Two other signs are of value; one, the cyanosis of the tongue which is seen a day or two before the eruption appears, and the other, of the greatest possible value, is Koplik's spots. These spots sometimes may be seen as early as four days before the appearance of the eruption, and usually two days or one day before it appears. If one is familiar with the appearance of Koplik's spots, the diagnosis can be made with absolute certainty. This has been questioned of recent years, but I have never seen an instance in which the spots were present in which measles did not develop. If the child is not under medical supervision, but is attending school, the prob-



lem of isolation will rest with the teacher or with the family. The school teacher should be instructed as to the beginning signs of the various contagious diseases, and all children with catarrhal symptoms should have the temperature taken, and if there is fever, should promptly be sent home. In the home the combination of catarrhal symptoms and fever should lead to such isolation as will at least prevent outside children from coming in contact with the child until the diagnosis is made with certainty, but it will be a long time before the laity will take such an interest in the prevention of the infectious diseases as to put this simple method into practice.

The most hopeful thing about the prevention of disease is the remarkable progress that has been made in the past two years by public health instruction in regard to the nature and prevention of infectious diseases. With the diseases of childhood one lesson should be taught, if nothing else, and that is that the fewer people who come in contact with a sick child, the fewer will contract the disease, and this applies not only to measles, but to almost all of the infectious diseases. There is less of the mother sending for the neighbor's child to come in to entertain the child who is ill than there used to be, but there is still far too much carelessness in this regard. I have been greatly impressed in recent years with the genuine desire of parents to protect their children from infections, particularly where a few words are said on this subject, not necessarily at the time in which there is danger of infection, but on the occasion of any medical visit.

The prophylaxis of measles will be seen to depend on the isolation of cases, particularly in preventing well children from associating with those who are ill until a diagnosis has been made, upon the closing of schools in the face of severe epidemics, and in the hospital treatment of the contagious diseases.

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# THE JOURNAL

## OF THE ALUMNI ASSOCIATION

OF THE

### COLLEGE OF PHYSICIANS AND SURGEONS,

### BALTIMORE.

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#### SURGEON GENERAL GORGAS AND THE NATION'S GREATEST NEED.

In an editorial under the above heading the *Southern Medical Journal* very strongly advocates the establishment of a National Department of Health with a cabinet officer at the head of it, and that Colonel Gorgas should be the first head of the department. A part of the editorial follows:

Perhaps the highest compliment ever paid a sanitarian by a foreign country was when the English called upon Colonel Gorgas to investigate sanitary conditions in the Transvaal and in Rhodesia. His recommendations to the Transvaal Chamber of Mines for improving the sanitary conditions of the employes of the mines on the Rand, as published in the *Journal of the American Medical Association*, June 13, 1914, if carried out, as they were on the Canal Zone, will reduce the number of deaths from pneumonia alone by thousands each year, and his visit will thus prove a blessing to the inhabitants of South Africa.

The report of Surgeon General Gorgas' investigations concerning the causes of malaria and black water fever in Rhodesia, with his recommendations regarding methods to employ in stamping out those diseases in that locality, which appears as the leading article in this number of the *Journal*, is probably the ablest, the most authoritative, and therefore the most important, discussion on the prevention of malaria ever published. Malarial prevention is the same everywhere, and the measures he advises for Rhodesia will apply to any locality in which malaria is prevalent. Why should they not be put into practical operation in the malarial districts of the United States, as well as on the Canal Zone and in Rhodesia? Why should we not practice among our own people the methods for preventing all other diseases that have given such brilliant results in our territorial possessions and in other countries? Surely there is need for improvement in the health conditions of the United States.

In the year 1912, 838,251 deaths from all causes were reported in the registration area, which comprises only 63.2 of the total population of the United

States. There were then approximately 1,400,000 persons who died in our country in the year 1912. It is estimated that at least one-third of them, or more than 450,000, died needlessly of diseases that could and should have been prevented. Pneumonia alone caused the death of 79,917 in the registration area and at the same ratio for the entire United States approximately 125,000 died of this disease, which the average person does not regard as preventable, and which our government has done nothing to prevent, yet on the Canal Zone among the negro employes the death rate from pneumonia was reduced from 18.74 per thousand in 1906 to 1.30 in 1912.<sup>1</sup> Of course, it is not possible to control the housing and other environment of the inhabitants of the United States as was done with the laborers working on the Panama Canal, and we could not hope to reduce the death rate from pneumonia and other diseases as low as reported by Surgeon General Gorgas, but hundreds of thousands of lives of good American citizens could be saved if we even approximated the sanitary measures employed in the Canal Zone.

It is estimated that several million people in the United States have malaria every year, and the annual economic loss is considered to be not less than \$100,000,000 from that disease. Yet if the same practical methods of malarial prevention, which were successfully carried out in Havana and the Canal Zone, were put into effect and continued for five years in our own country, malaria would become a rare disease in the United States.

The toll of tuberculosis in our country is now approximately 140,000 lives annually, though in the past twenty years the campaign of education has reduced the tuberculosis death rate from 200 to 150 per hundred thousand of population. Two hundred thousand die annually from disease of the heart and kidneys, when according to the *Human Factor*, published by the Equitable Life Insurance Company, 40 per cent of those deaths could have been prevented. The death rates from diseases of the heart and kidneys are increasing at an alarming rate, and yet practically nothing has been done for their prevention. Cancer is increasing, and so are many other diseases.

The figures and facts presented above are appalling. They tell the tale of ignorance upon the part of our people and neglect upon the part of our government. They also prove that the nation's greatest need is an adequate department of health, with an appropriation sufficient to provide experts, epidemiologists and trained sanitarians to aid the health authorities in the various states and cities in their campaigns against disease.

The present United States Public Health Service, under the wise leadership of Surgeon Generals Wyman and Blue, has made a wonderful record in quarantine service, and when called upon to take charge of epidemics in various cities it has shown remarkable efficiency. Indeed the annals of medicine record no more brilliant achievements than the eradication of plague from San Francisco by Blue, and yellow fever from New Orleans by White. The work of Stiles on hookworm, Anderson and Rosenau on anaphylaxis, Lumsden on typhoid fever, Lavender on pellagra, von Ezdorf and Carter on malaria, Rucker, Creel and Grubbs on plague, and Young, Goldberger, Trask and other surgeons in various phases of public health work has reflected great credit upon the United States Public Health Service; but ten men are needed in public health work where there is now one employed, and the Bureau of Public Health should be enlarged into a department with a member of the President's Cabinet at its head.

<sup>1</sup> Gorgas: Jour. A. M. A., June 13, 1914, p. 1856.



## DELAY IN CANCER.

In the present state of knowledge the chief hope of reducing the cancer death-rate is found in early recognition of the disease followed by prompt and competent surgical treatment. Thousands of lives now needlessly sacrificed could be saved if the average cancer patient would go to the surgeon as promptly as does the average person attacked by appendicitis. Nor is there any reason why the cancer patient should not seek this, the only safe treatment, with the same high degree of confidence in the outcome that is now common among those suffering from the latter disease. Unfortunately, the evidence is only too clear that a different attitude toward cancer prevails and occasions many preventable deaths. The almost superstitious dread of the disease and unwillingness to admit its existence or to seek medical advice in time are well known and difficult obstacles to progress in its control. Proof of this fatal neglect is found in the experience of a New York surgeon who recently studied his case records in order to obtain definite information as to the delay in the average case. Among his last two thousand patients there were 86 cases of cancer. Sixty-five of these had never been operated on, and came to him as new cases. Of the 65 patients, 35 were men and 30 were women. Further study of these 65 cases showed that after the first discovery of a tumor, or after the first suspicious symptoms the men had waited an average of 12.2 months before consulting the surgeon, and the women had waited 11.9 months; practically a year's delay in all cases. Another well known surgeon in a recent public address confirmed this estimate from his own experience. Winter of Koenigsberg, Prussia, the pioneer in the education of the public in regard to cancer, analyzed the records of 1062 operable cases and showed that 87 per cent of these patients could and should have applied for treatment much earlier, when they would have had a far higher chance of recovery than was actually the case.

To the delay after the symptoms are manifest must be added the indefinite time after the beginning of the disease before the patient recognizes the trouble. This period can be shortened by education. Fortunately the symptoms of cancer are present quite early and can usually be recognized if the patient understands their importance. In too many instances, however, the disease is not suspected until the symptoms are pronounced or until there is a tumor of considerable size. If we assume that this period



averages six months, and then add the year's delay for which the patient is responsible, we find that the average patient does not seek advice until at least a year and a half after the onset of cancer. This precious time thrown away means, if not a fatal outcome, at least a serious instead of a minor operation. Science has not yet found the cause of cancer. It is not known how it is contracted or how it is transmitted from one patient to another. We do not know how to prevent it. Some day we will know. Meanwhile, cancer is increasing rapidly. The best advice and the only advice that can be given to the public, with our present knowledge, is, to have every suspicious sore or lump removed and removed early.

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### SCHOOL HYGIENE.

The study of conditions surrounding school life which may injuriously affect the growth and development of the child, and proper appreciation of the influence of physical defects on the intellectual capacity of the young, have until quite recently received little consideration in this country. The first attempt to exercise medical supervision of schools in the United States was by the city of Boston, in 1894, for the purpose of controlling the contagious diseases of childhood. From this beginning, the movement has developed until now most of our cities maintain a more or less comprehensive supervision over school hygiene and the medical inspection of schoolchildren is mandatory in a number of states and elective in some others.

In this respect we are considerably behind European countries, notably Germany and England, where the system of medical school supervision is more extensively developed, has been longer in operation and is practically national in character. That this is so is largely due to the fact that consideration of dirt, destitution and disease, has not been of such immediate importance with us, except in certain restricted areas.

School hygiene is a complex problem. Our knowledge of its principles is greatly in excess of their practical application. The position of school medical officer presupposes, in addition to thorough training in physiology and psychology, a practical working knowledge of the physics of heat, light and ventilation, and an ability to recognize and co-ordinate the physical condition and educational needs of the developing child.

The need of skilled services and the expense incident thereto have been

instrumental in restricting the practice of school hygiene largely to urban communities. This is unfortunate, because the great bulk of the school population of this country is as yet scattered over the rural districts.

The disproportionate prevalence of preventable diseases among urban and rural populations is not great; the necessity, therefore, of educating rural communities to the exercise of sanitary precautions necessary for the preservation of health is apparent. The importance of school hygiene in this respect is paramount, because the sanitary redemption of the majority of rural communities must largely be brought about through the practical education of the young in orderliness, cleanliness and the observance of sanitary precautions. Furthermore, the medical inspection of schoolchildren is in more or less intimate relation with the homes, which in turn are component parts of communities. The educational effect of school hygiene extends through these channels for the betterment of the community health.

There is necessity for uniformity in methods of examination and of classifying the results for collective statistics to be of value. There is need of uniform methods and systematic classification of results before these observations can be of value in studying mental and physical standards, and the effect of changing social conditions on development.

The object of school hygiene, says *The Journal of the American Medical Association*, is to place the impressionable child in the most favorable environment for physical and mental development and to detect and correct defects which may impede intellectual training. The medical supervision of schools may, however, be further utilized by the state in the determination of the prevalence of communicable diseases, especially in rural communities. The ultimate control of malaria, trachoma, tuberculosis and typhoid fever in these communities must be largely through educational methods. For these reasons the combination of the duties of the health officer with that of the medical supervision of schools appears eminently practicable.

Intensive studies of the mental capacity of American schoolchildren, at varying ages, should be undertaken, in widely separated communities, with a view to the establishment of the normal mental standard, thereby rendering possible the study of the impress of immigration, and the effect of a changed social environment on the mental processes of the immigrant child, as revealed by similar examinations at the ports of entry.

## THE WORK OF THE ALUMNI FUND COMMITTEE.

Under the dates of June 29 and August 8 letters were sent to all the alumni of record; these letters explained carefully the conditions, which not only the College of Physicians and Surgeons, but every school of its class, must be prepared to meet the next two years. The alumni were asked to assist in meeting these conditions that there be no unnecessary retrenchment or failure to maintain the standard which our dean, Dr. Lockwood, has set for the school. At the time of each appeal, about 2500 letters were mailed. In response 154 pledges have been secured. There are surely many of our alumni who are extremely loyal to their college, but who have overlooked this matter. As the committee proposed in the second letter, a subscription of five dollars annually would mean a great deal to the college. If you have not sent in your subscription, mail your check to Dr. Standish McCleary, and the committee will understand that another of the same amount will be forwarded next year. In the next issue of the JOURNAL a complete financial statement will be issued. It is the intention of the faculty to keep the alumni well posted upon the various activities of the college.

The following list comprises those who paid the first installment:

C. A. Anderson,	J. B. Council,	W. J. Gatti,
F. G. Anderson,	Hugh H. Cook,	C. Garrabrandt,
J. S. Arnold,	Frank H. Cutler,	W. Allen Griffith,
L. F. Ankrim,	A. J. Crawford,	J. A. Hassell,
G. C. Blake,	A. J. Campbell,	Ira Clay Hicks,
W. P. Bonar,	J. J. Cloonan,	John H. Haizlip,
M. H. Bailey,	F. J. Dale,	Geo. J. Howe,
F. L. Benson,	J. W. Darlington,	J. M. Heading,
Henry C. T. Biffar,	Cecil Denham,	J. Mott Heath,
R. Bernabe,	B. F. Dilliard,	John J. Heck,
H. A. Bolton,	J. J. Donohue,	James S. Hewson,
J. L. Brubaker,	Chas. W. Daly,	J. Morley Hoag,
J. J. Burne,	W. S. Evans,	J. F. Hogan,
J. Spencer Callen,	A. L. Addy,	J. S. Hubbs,
B. F. Church,	Lancelot Ely,	F. A. Hadley,
Charles B. Canby,	A. M. Evans,	J. Edw. Hoole,
C. Melvin Coon,	B. D. Evans,	John P. Jackson,
Edw. Campbell,	C. D. Evans,	Kenna Jackson,
M. G. Carrera,	Hugh M. Fletcher,	D. M. Kipps,
E. E. Cloves,	C. A. Flowers,	N. L. Kerr,
R. Garn Clark,	G. Fred. Boyd,	T. W. Kay,
John A. Coe,	James G. Flynn,	T. F. Kennedy,
Chas. M. Cohn,	William Greenfield,	A. B. Lyon,
M. D. Cohn,	Chas. D. Gordon,	D. E. Musgrave,

James McGinty,  
Edward McGinty,  
H. R. McGraw,  
R. C. Mellow,  
B. W. McLean,  
H. B. McDonnell,  
H. A. MacMillan,  
J. B. Makin,  
R. J. Marvel,  
John L. May,  
Geo. R. Miller,  
H. S. Miller,  
J. M. Miller,  
W. E. Myles,  
J. E. Marchner,  
M. D. Norris,  
R. I. Newell,  
A. C. Nolte,  
L. F. Norris,  
D. W. O'Connell,  
D. J. O'Keefe,

J. L. Opferman,  
W. T. Owens,  
A. Palmisano,  
T. R. Paganelle,  
Thos. E. Peery,  
E. O. Persons,  
Abdon V. Piskorski,  
L. M. Palitz,  
W. G. Phillips,  
E. T. Quinn,  
E. L. Roger,  
M. Robinson,  
F. M. Smith,  
A. M. Spangler,  
J. M. Scanlon,  
A. C. Shannon,  
Edward P. Smith,  
R. V. Shirley,  
F. D. Sanger,  
F. H. Seiss,  
A. W. Skilton,

A. G. Shellito,  
F. J. Snyder,  
Geo. M. Snook,  
H. Louis Stick,  
J. E. Suter,  
E. C. Segarra,  
C. P. Shirkey,  
J. B. Thompson,  
J. Thorkleson,  
D. C. Trach,  
M. W. Uberroth,  
G. L. Viewig,  
F. M. Villella,  
T. V. Williams,  
S. D. Weil,  
P. N. Wentz,  
J. O. Williams,  
Wm. P. Wilson,  
G. N. Yagle,  
C. T. Zimmerman.

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## Obituary.

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DR. JAMES A. COLE, '86, died at his home in Timmons ville, S. C., March 11.

DR. THOMAS JOSEPH MURPHY, '99, a member of the Maine Medical Association, died at his home in Bangor, Maine, August 14, aged 41.

DR. JAMES C. RIPPARD, '81, a member of the Medical Association of Georgia, died at his home in Waycross, Ga., July 4, from heart disease, aged 56.

DR. DAVID L. TALKINGTON, '07, died at his home in Jacksonburg, W. Va., May 22, from the effects of poison accidentally self-administered, aged 37.

DR. JOHN W. JOHNSON, '83, for several years township physician and director of public safety of Nelsonville, Ohio, died at his home in Nelsonville, July 1, from heart disease, aged 63.

DR. J. THOR ROHM, '80, for thirty years a practitioner of Redding, Cal., once mayor of that city, and for one term coroner of Shasta County, died at his home, March 31, from nephritis, aged 62.



DR. WILLIAM H. MINNICH, '90, a member of the Medical Society of the State of Pennsylvania, for eight years jail physician of York County, died at his home in Dallastown, Pa., May 1, aged 49.

DR. JOHN A. BROBST, '85, secretary to Secretary of the Navy Thompson at the time of the settlement of the Nova Scotia fisheries claim, died at his home in Allentown, Pa., May 4, from septicemia, aged 61.

DR. GEORGE G. GRAHAM, '82, formerly an alienist of Pittsburgh, and a member of the staff of Dixmont Hospital for the Insane, died at his home in Santa Barbara, Cal., August 9, from heart disease.

DR. JAMES B. GARVEY, '84, a Fellow of the American Medical Association; for four years sheriff of Calaveras County, Cal., and for two terms superintendent of schools, died at his home in Dunmore, Pa., August 23, from acute gastritis, aged 71.

DR. HENRY CLAY DEVILBISS, '77, a Fellow of the American Medical Association, formerly president of the Medical Society of Franklin County, Pa., treasurer of the Cumberland Valley Medical Association, and since its organization, a member of the medical staff of the Chambersburg Hospital, died at his home in Chambersburg, Pa., May 17, aged 65.

#### DR. GEORGE B. REYNOLDS, '72.

Ascending the stairs of the University Club at 10 o'clock on the morning of October 2 in answer to an emergency call, Dr. George B. Reynolds, 809 North Charles Street, was stricken with heart failure and died a few minutes later in a chair.

The death of Dr. Reynolds was a shock to his family and friends. The physician had suffered from heart attacks since he was waylaid by thugs three years ago. He was responding to a call in the Severn Apartments when three men attacked him, struck him on the head with a "billy" and robbed him of his watch and other jewelry. The thieves left him unconscious on the pavement near the Stafford Hotel. They have never been caught by the police, although one man was arrested by Headquarters Detective Hammersla and admitted he had been associated with the highwaymen.

Born in Cumberland County, Virginia, on the James river, about 40 miles from Richmond, Dr. Reynolds was about 70 years old. He was the son of James W. and Julia Ann Carter Reynolds. His mother was born in Amherst County, Virginia.

When the Civil War broke out Dr. Reynolds, but a youth, organized a company to fight for the Confederacy. When 17 years old he was a lieutenant in the First Virginia Regiment. He was one of the four Confederate officers that guarded the "Treasury Train" which carried the funds of the state of Virginia from Richmond to Roanoke when the capital was moved.

As a boy Dr. Reynolds was taught by private tutors, but after the war the family found that their funds were almost depleted and he came to Baltimore and obtained employment. From his salary he saved enough to study medicine at the old Washington Medical College, which is now known as the College of Physicians and Surgeons.

#### DR. THOMAS OPIE.

Dr. Opie died October 6, at the home of his daughter, Mrs. C. Reginald Duvall, in the city of Washington. He had not been in good health for several years, but the immediate cause of his death was pneumonia.

Dr. Opie was born in Jefferson County, Va., February 15, 1840. He attended the University of Virginia and studied medicine at the University of Pennsylvania, from which he graduated in the spring of 1861. On his return to Virginia he found that the state had seceded from the Union and he cast his lot with the Confederacy. He at once enlisted as a private in the state troops. In this capacity he continued to serve until 1862 when he was transferred to the medical department where he remained until the close of the war in 1865.

After the close of the war he came to Baltimore. In 1872 he was one of a small group of men who founded the College of Physicians and Surgeons. In 1873 he was made dean and served uninterruptedly until on account of failing health he was obliged to give up his work in 1905. That he was a most efficient dean is attested by the fact that he continued to hold the office, unchallenged, for such a long period, during which the school had its greatest prosperity. To this result Dr. Opie contributed in no small degree.

Dr. Opie was married in 1867 to Miss Sallie Harmon of Staunton, Va. She died in 1895. The surviving children are Dr. Eugene Lindsey Opie, Dean and Professor of Pathology, Washington University Medical School, St. Louis, Mo., Reginald S. Opie, an attorney-at-law in Baltimore, Mrs. C. Reginald Duvall, Washington, D. C., Mrs. A. Bernard Chancellor and Mrs. J. Q. H. Smith of Baltimore.

## Marriages.

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DR. EDWARD ST. CLAIR HAMILTON, '11, of Oak Hill, W. Va., and Miss Kate Ernestine Boone, of Organ Cave, W. Va., were married Wednesday, June 3, 1914.

DR. EDWARD N. BRUSH, professor of psychiatry at the College of Physicians and Surgeons, and Miss Marie Trego Hartman were married at Forest Park, Baltimore, August 6, 1914.

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## Personal Notes.

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DRS. LOCKWOOD, HARRISON and RUHRÄH all sailed for Europe July 29. After two days at sea the ships were ordered back to this country. So ended the foreign travel of a first timer, an occasional, and an annual tripper to the old world.

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### A PHYLACOGEN FOR TYPHOID FEVER.

An announcement that will undoubtedly occasion widespread interest among physicians is appearing in current medical journals over the signature of Parke, Davis & Co. We refer to the announcement of Typhoid Phylacogen. The new product is prepared from pure cultures of the bacillus typhosus of Eberth and Mixed Infection Phylacogen. As the name signifies, this latest Phylacogen is indicated in the treatment of typhoid fever or any pathological condition due to infection with the bacillus typhosus. Before being formally offered to the medical profession, Typhoid Phylacogen was subjected to rigid clinical tests extending over two years. The most significant fact developed by these investigations appears to have been the prompt amelioration of symptoms and rapidity of recovery in successful cases. Indeed, it is evident that, when properly treated, recovery not uncommonly takes place in approximately half the time required under conventional methods.

Parke, Davis & Co. have issued a 32-page brochure on Typhoid Phylacogen which deals in extenso with the new method of treatment, discusses diagnosis, dosage, technique of administration, etc., and reproduces a valuable paper by Dr. E. P. Benoit, professor of clinical medicine in the Laval University and physician at Notre Dame Hospital, Montreal, read before the Medical Society of Montreal and later published in "L' Union Medicale du Canada." Dr. Benoit refers at some length to a number of typhoid cases that were treated at the Notre Dame Hospital, concluding his paper with the significant observation that "the treatment of typhoid fever with Phylacogen gives real results." Physicians are advised to send for a copy of this "Typhoid Phylacogen" pamphlet, addressing their requests to Parke, Davis & Co. at their home offices in Detroit, Mich.

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29. American Medical Association Journal.
30. Medical Record.
31. New York Medical Journal.
32. Institute Quarterly.
33. Southern Medical Journal.
34. Ophthalmoscope.
35. Zerschrift Urologie.
36. Journal of Obstetrics and Gynecology of the British Empire.
37. Dominion Medical Journal.
38. Old Dominion Monthly.
39. The Boston Medical and Surgical Journal.
40. Journal of Alumni Association of P. & S.
41. Journal of Physiology.



# College of Physicians and Surgeons

OF BALTIMORE.

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*Professor of Surgery.*
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LL. D.,  
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*Associate in Ophthalmology and Otolaryngology.*
- C. C. JUDD, M. D.,  
*Associate in Clinical Pathology.*
- WM. GREENFELD, M. D.,  
*Associate in Pathology and Bacteriology.*
- MAURICE LAZENBY, D. D.,  
*Associate in Obstetrics.*
- CHARLES B. CRAWFORD,  
*Associate in Clinical Methods.*
- JOSEPH I. KEMLER, M. D.,  
*Associate in Ophthalmology and Otolaryngology.*
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*Associate in Surgery.*
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*Lecturer on Anaesthetics and Assistant Demonstrator of Anatomy.*
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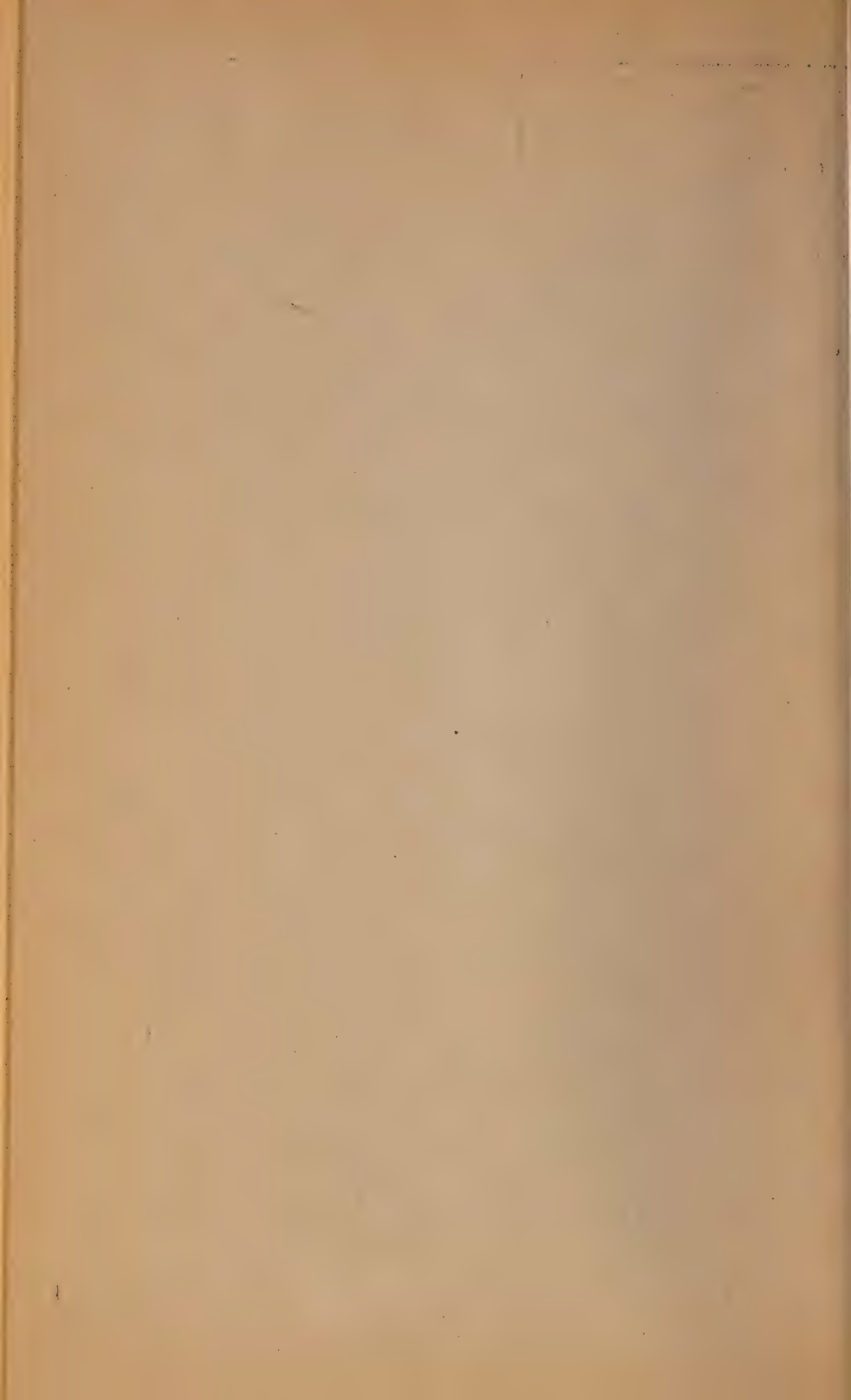
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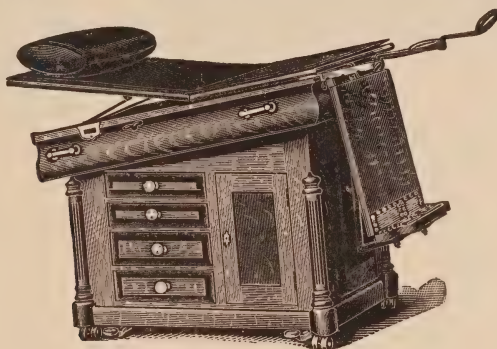
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THE TREATMENT OF AMEBIC DYSENTERY WITH EMETINE.<sup>1</sup>

REPORT OF NINE CASES.

BY JULIUS FRIEDENWALD, M. D., BALTIMORE.

*Professor of Gastroenterology, College of Physicians and Surgeons,*

AND

LEWIS J. ROSENTHAL, M. D., BALTIMORE.

*Associate Professor of Medicine, College of Physicians and Surgeons.*

Great interest has been manifested for many years in the treatment of dysentery with ipecac. As long ago as 1649, Piso brought this drug to Europe, and gave the first distinct account of it to the world. It is also well known that Helvetius, in 1689, gained great notoriety, as well as remuneration, by effecting a cure of dysentery in the Dauphin with this remedy; he finally disposed of the drug to the French government, as a secret remedy. White, in 1712, prescribed it in large doses, *i. e.*, in one case giving dram doses, twice, and in another a scruple, and two scruples twice; though he observed no beneficial effect in chronic dysenteries. In 1741, Geoffrey says that "ipecac often cures in the course of one day as if by enchantment. . . . It is comparatively useless unsupported in epidemics. It is better for confirmed, than for commencing, dysenteries. Sometimes it does not cure because the disease of the bowel has gone too far, but it never does any harm." His dose varied between 10 and 30 grains. In 1785, Gibler Blanc expressed a high opinion of the efficacy of ipecac, but gave doses of but two grains and at times of only one grain.

<sup>1</sup> Presented at the annual meeting of the Medical and Chirurgical Faculty of Maryland, April 30, 1914. Reprinted from the New York Medical Journal for July 4, 1914.



Cullen, in 1781, did not believe that ipecac possessed any specific virtue, and asserted that "it proved useful only when so managed as to operate chiefly by stool." Farget, too, in 1832, considered this drug of slight value, and called the Spanish employment of it "incendiary." In 1817, Pelletier observed that ipecacuanha contained an alkaloid, which he termed emetine, but which was found to consist of a mixture of three substances, emetine, cephaelin and psychotrin. In 1829, Bardsley described the beneficial results from the use of this drug in dysentery and chronic diarrhea. Parties, in 1846, considered the employment of ipecac in the treatment of dysentery, as of quite secondary importance and held that the drug was most efficacious in doses of from one scruple to one dram.

Ipecac was administered in small doses by Twinning and other clinicians, but not until 1859 did Docker recommend the use of large doses (60 grains three times daily) in the treatment of grave forms of dysentery in Mauritius, thereby reducing the mortality from 10 and 18 per cent to 2 per cent. Docker's great service was rewarded by a gratuity from the English government. Maclean and Chevers, in 1886, advocated the employment of ipecac in the treatment of acute hepatitis.

During the past few years the use of ipecac has materially gained ground. The drug was often cast aside on account of the appearance of disagreeable symptoms, as nausea and vomiting, produced by large doses, and on this account it was finally administered in salol coated pills. Manson, in 1902, found ipecac most efficacious in the treatment of the cases of dysentery which he had seen in London in patients coming from the tropics. He recommended 20 to 60 grains daily for a week, and maintained that one or two doses often abort dysentery, while the acute symptoms rapidly subside.

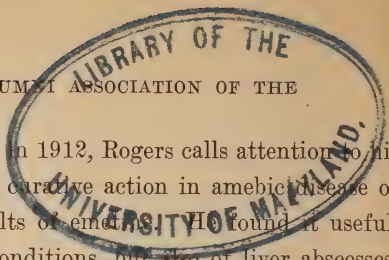
Leonard Rogers stated, in 1907, that all cases of amebic dysentery should be treated with large and repeated doses of ipecacuanha, whenever any doubt exists as to whether suppuration in the liver has already taken place or not before exploration is practised, for this rule will constantly prevent unnecessary surgical procedures. Again, in 1910, he stated that amebic ulceration of the large bowel always precedes liver complications, and that ipecacuanha is of the greatest value in amebic dysentery. It was but a simple step forward to try the effect of full

doses of ipecacuanha in the early stages of amebic hepatitis with a view of curing the exciting cause, namely, the ulcers in the large intestine. He brought forward several communications illustrating the marvellous effect of this drug in preventing acute hepatitis from passing over into liver abscess. During the last four years no patient has had amebic abscesses in the 100 beds of the Calcutta Hospital, and the mortality of liver abscesses in the English troops in India has fallen 60 per cent.

Walsh, in 1891, was the first to make note of the value of emetine in the treatment of dysentery. He combined emetine with mercuric iodide, which is not affected by acid and thus passes through the stomach unchanged. He reports 34 cases treated by this method with most favorable results. Vedder (1911) explains the difference in views regarding the efficacy of ipecac in the treatment of dysentery, by the fact that ipecac has been used in all cases of dysentery, irrespective of whether the dysentery was bacillary or amebic. He showed by direct experiment that ipecac possesses no greater activity in bacillary dysentery against the bacilli than any other drug, but that in amebic dysentery the action is much more powerful. His conclusions are as follows:

1. Ipecac is a powerful amebicide, since the weakest proportion used (with exception of deemetized) killed in a dilution of 1 to 10,000.
2. Different preparations of ipecac on the market vary greatly in their ingredients, and in their power of killing amebas.
3. Emetine is a powerful amebicide, killing in dilutions of 1 to 100,000, which is double the dilution that was amebicidal when fluid extract of ipecac was used.
4. It is probable that the power of any given specimen of ipecac to kill amebas is directly dependent upon the proportion of emetine.

In 1912, Rogers brought forward the epoch making paper on The Rapid Cure of Amebic Dysentery and Hepatitis by Hypodermic Injections of Soluble Salts of Emetine. He tested the effect of emetine hydrochloride on *Amæba histolytica* in dysenteric stools, and found that the organism was immediately killed and altered in appearance by a 1 to 10,000 solution, and that it was rendered inactive in a few minutes and killed by a solution of 1 to 100,000. He administered the drug hypodermically to three patients who were unable to take ipecac internally, with most favorable results.



In a further communication, later in 1912, Rogers calls attention to his further experience with the specific curative action in amebic disease of hypodermic injections of soluble salts of emetine. He found it useful, in the cure, not only of intestinal conditions, but also of liver abscesses. These are cured by aspiration, followed by injections of emetine, subcutaneous or direct into the cavities. In order to decide if the abscess is completely cured, or if pus has accumulated again after apparent cures, leucocyte counts are, according to Rogers, of the greatest importance. If the original increase in the leucocytes has diminished, we have a direct evidence of the disappearance of the abscess.

The hydrochloride and hydrobromide of emetine, according to Rogers, are equally useful, the former being most soluble, while the latter requires 2 cc. of sterile water or saline solution to dissolve it. He employs one-half up to two-thirds of a grain (equal to 60 grains of ipecac), and in very acute cases as much as one grain. He calls attention to the fact that bacillary dysenteries are not influenced by emetine, and the rapid improvement following the injections of one-half grain is of the greatest diagnostic importance, as this does not occur in the bacillary forms. The failure of adequate doses of emetine to produce marked improvement in two to three days is strong evidence against the amebic origin of the disease. Recently, Rogers has employed emetine hydrochloride by mouth on an empty stomach, and found that in doses of one or two one-third grain tablets nausea and vomiting are rarely produced, and that this method of administration is most efficient.

In a recent communication, Vedder comes to the following conclusions regarding the treatment of amebic dysentery by means of emetine:

1. Emetine is a true specific in amebic dysentery and hepatitis, and the results obtained by its use compare very favorably with the results obtained with salvarsan in syphilis.

2. The hypodermic use of the hydrochloride is the preferred method of treatment.

3. A large percentage of patients so treated continue to harbor *Entamoeba histolytica* (often in the encysted and most dangerous form) in the feces for some time.

4. While in view of this fact, it is impossible to state at present that patients treated by emetine will remain permanently cured, yet the prospects are encouraging.

5. The presence of a considerable number of these chronic ameba carriers constitutes a sanitary menace to this community.

6. It is possible that the amebas may be removed from these carriers by a course of irrigations of quinine or silver nitrate.

7. Experiments have failed to show that emetine possesses any marked therapeutic virtue in bacillary dysentery, syphilis, rabies or trypanosomiasis.

Our experience with emetine extends over a series of nine cases, seven in males and two in females, ranging in age from 10 to 42 years. The drug was employed hypodermically in the form of the hydrochloride in doses of from one-third to one-half grain two or three times daily, and the injections were given for about a week. The drug was well borne in all instances. In a few instances a pruritus appeared, extending over the entire body; but the symptom always disappeared within a week after the treatment. Usually after the third or fourth injection the stools begin to lessen in number, from eight to ten a day to one or two, the blood and mucus disappearing, and the stools become more and more solid, and no longer contain amebas. The change for the better takes place so rapidly that the specific influence is undoubted.

The amebas were demonstrated in the rectal ulcers in every case, except Case v, before treatment, but in no instance could the histolytic amebas be observed after the first day's treatment. In Case v the constant use of argyrol injections prevented the demonstration of the organisms; but the result of the treatment was so marked that there could be no doubt as to the diagnosis. Proctoscopic examinations were made in all instances, the ulcerations observed and scrapings were made in order to demonstrate the presence of the amebas. Blood examinations revealed in most instances a high leucocyte count, which diminished as the disease abated. The patients began to improve in all instances in general health after the first two or three injections, and the rectal ulcers soon showed signs of healing and disappeared after a week or ten days. All of the patients soon began to gain weight and before long were able to enjoy a much less restricted diet.

Although we possess in emetine a specific for the cure of amebic dysentery, it must be borne in mind that patients cannot be pronounced cured until a considerable period of time has elapsed without reappearance of



the symptoms, for encysted amebas may be set free and produce a recurrence of the symptoms. It is therefore important that patients treated for amebic dysentery with emetine should be kept under observation for some time, and at the first signs of a recurrence should again be given treatment.

The following records present brief abstracts of the histories as well as of the treatment of our nine cases:

CASE I (July 7, 1912).—B. S., aged twenty-seven years, affected with abdominal distress for about two years, with pain mainly in the suprapubic and right hypochondriac regions. The pain was sharp at times, and lancinating. Fever was present. There was diarrhea, eight to ten stools a day for periods of from six to eight weeks, after which the patient was free from trouble for a time.

The patient observed that the stools were dark in color, and contained some mucus, and at times small quantities of blood. There was great weakness, and the appetite was poor. On examination the abdomen was found tender everywhere, more marked, however, in the suprapubic and left iliac regions. The stools contained blood and mucus. On proctoscopic examination small ulcers were observed in the sigmoid and rectum and there was marked infiltration in this region, with thickening of the mucous membrane. The ulcers bled easily when touched. Smears made from the secretion of this area revealed blood, pus, and mucus, and amebas in large numbers. Red blood corpuscles, 2,650,000; white corpuscles, 11,200, hemoglobin, 40 per cent. Differential count: Polynuclears, 70 per cent; small mononuclears, 24 per cent; large mononuclears, 3 per cent; eosinophiles, 3 per cent.

July 9, 1912,  $\frac{1}{3}$  grain of emetine three times; eight stools, containing blood and mucus. July 10,  $\frac{1}{3}$  grain; four stools containing blood and mucus. July 11,  $\frac{1}{3}$  grain; three times; one stool, formed, contained no blood, no mucus. July 12,  $\frac{1}{3}$  grain, twice; stools formed. July 13,  $\frac{1}{3}$  grain, twice. July 14,  $\frac{1}{3}$  grain, three times; stools formed. July 15, patient discharged as cured. Proctoscopic examination revealed no mucus and no blood; amebas not found.

CASE II (August 18, 1912).—J. S., male, aged forty-two years; attacks of indigestion, at varying periods for five or six years, accompanied by pain and diarrhea, and lasting over a period of from eight to ten weeks; four to six stools daily; did not contain blood. Six weeks ago, he began to have pain in the left iliac region accompanied by marked diarrhea, which gradually increased until there were from ten to fifteen stools a day. The stools were liquid and contained blood and mucus, and when passed were accompanied by severe pain of a griping character and with tenesmus.

Physical examination: Abdomen not tender to pressure; liver extended two fingers' breadth below the costal arch. Stools foul smelling, greenish gray in color, containing some mucus, much blood, and numerous amebas. On proctoscopic examination, the mucous membrane of the rectum found intensely reddened and edematous, with small ulcerations and punctate hemorrhages. Scrapings showed amebas, red blood cells, pus, and cercomonas. Blood examination presented the following picture: Red cells, 3,500,000; white cells, 10,000. Differential count: Polynuclears, 68 per cent.; large mononuclears, 16 per cent; small mononuclears, 8 per cent; eosinophiles, 8 per cent.

August 20,  $1\frac{1}{4}$  grain of emetine was injected; August 21,  $\frac{1}{4}$  grain; August 22,  $\frac{1}{2}$  grain; August 23,  $\frac{1}{2}$  grain; August 24,  $\frac{1}{2}$  grain; August 25,  $\frac{1}{2}$  grain; August 26,  $\frac{1}{2}$  grain; August 27,  $\frac{1}{4}$  grain; August 28,  $\frac{1}{4}$  grain.

After the third injection of emetine the stools began to improve, mucus, blood, and amebas disappeared. At this time marked pruritus began, but subsided after a week. Stools examined, September 2, revealed no blood, no mucus, and no amebas. September 7, patient discharged as cured; and gained nine pounds since August 25.

CASE III (January 5, 1913). A. G., male, aged thirty-nine years. Present illness began June 3, 1912; diarrhea, cramps in the abdomen, and tenderness; eight to ten stools a day, bloody and containing considerable mucus. On examination, the liver was found somewhat enlarged, extending two fingers' breadth below the costal arch. On proctoscopic examination, the rectum was found reddened, and the mucous membrane edematous. It bled readily, and numerous small ulcers were revealed. Scrapings showed numerous amebas.

January, 14, patient had ten stools, containing blood and mucus;  $\frac{1}{4}$  grain of emetine was injected. January 15, no change in condition;  $\frac{1}{4}$  grain given. January 16, no change in the stools. January 17,  $\frac{1}{4}$  grain of emetine given. January 18,  $\frac{1}{4}$  grain. January 18, 19, and 20, very slight change in stools for the better. January 23,  $\frac{1}{2}$  grain of emetine, three times. January 24,  $\frac{1}{2}$  grain of emetine, four times; stools not formed. January 25, two grains of emetine given; patient constipated, and had intense itching over entire body. February 2, patient entirely well, and had a formed stool each day; ulcers in rectum entirely healed.

CASE IV.—N. M., male, aged twenty-eight years; patient of Dr. A. C. McGlannan, admitted April 6, 1913. Norwegian, unable to converse in English; impossible to obtain clear history. Complained of pain in his right side and diarrhea, with which he had been affected for a long time. Liver enlarged and tender to pressure; sensation of fluctuation elicited. Liver abscess was suspected, and the patient was operated on by Doctor McGlannan, April 10; a large liver abscess was found, which discharged a great amount of pus, containing numerous amebas. The stools, which numbered eight to ten a day, contained mucus and amebas. April 13,  $\frac{1}{4}$  grain of emetine hydrochloride was administered. April 14, patient very comfortable, felt better; emetine  $\frac{1}{2}$  grain. April 15, two stools containing some pus and blood; emetine  $\frac{1}{2}$  grain; patient felt comfortable. April 16, two stools containing no blood, no mucus, no amebas. April 17, emetine  $\frac{1}{2}$  grain; patient comfortable. April 18, one stool, no diarrhea, no blood, no mucus, no amebas. April 19,  $\frac{1}{4}$  grain; no amebas observed in pus from liver. April 20,  $\frac{1}{4}$  grain; patient very comfortable. April 21, no amebas in stools. May 10, drainage tube removed. May 15, patient felt well and expressed a desire to leave hospital. May 21, wound healed, border of liver no longer palpable. Blood examination: April 10, red corpuscles, 4,209,000; white, 28,500; polynuclears, 88 per cent; eosinophiles, 5 per cent. May 1, red corpuscles, 4,810,000; white corpuscles, 8,500; polynuclears, 72 per cent; eosinophiles, 1 per cent.

CASE V (May 18, 1913).—C. W., female, aged thirty years, affected with dysentery off and on for four and a half years; first attack lasted ten weeks; she recovered, and was well for three weeks; she suffered a relapse, which lasted six weeks. Entirely free of trouble of this character until eighteen months ago, when she had another attack lasting seven weeks. Present attack began five weeks ago with diarrhea, much mucus and blood, accompanied by

considerable tenesmus and pain in the abdomen; stools small in amount, but very frequent. She had lost weight and was quite weak. The patient began at the very outset of the attack to irrigate the bowels daily with four ounces of a 5 per cent solution of argyrol. This treatment failed to control the condition. Temperature between 101° and 104° F.

Examination: Marked muscle spasm in the region of the epigastrium with tenderness in the left iliac region over the descending colon and the sigmoid. May 21, stool did not reveal amebas. Same condition on May 31. The blood examination presented 17,500 leucocytes. Differential count: Polynuclears, 57 per cent; small mononuclears, 40 per cent; large mononuclears, 1 per cent; eosinophiles, 2 per cent.

On proctoscopic examination, the mucous membrane of the rectum was found markedly inflamed and reddened, and numerous small ulcers were revealed in the rectum and sigmoid. Mucous membrane bled readily, and was covered with blood and mucus. Scrapings did not reveal amebas, probably because patient had used argyrol injections for a month. On account of the character of the stools, the fever, and the ulcerations in the rectum, a diagnosis of amebic dysentery was made. June 15, 1913,  $\frac{1}{4}$  grain of emetine was administered; stools bloody and contained mucus and shreds. There were sixteen stools. June 14,  $\frac{1}{4}$  grain of emetine given; stools of the same character. June 15, and 16,  $\frac{1}{4}$  grain. June 17, no blood in stools. June 18,  $\frac{1}{4}$  grain; patient had first formed stool in four and a half years. Emetine administered up to June 20; patient well, and gained fourteen pounds.

CASE VI (June 2, 1913).—L. G., male, aged ten years, sailed for England June 1, 1912, and remained abroad about five months. Returned to America in November of the same year, and went to live in Newport News. He was accustomed to swim in the river while in Virginia, and after indulging in this sport for a few times, he became jaundiced, and was attacked with diarrhea. He lost much flesh. The diarrhea became more persistent, lasting two weeks or more at a time. He was compelled to go to stool eight or ten times a day, and several times at night. The passage of the stool was accompanied by marked pain and tenesmus. On physical examination some tenderness was observed in the right iliac fossa, and over the left rectus muscle; the patient was tender in the gallbladder region, and the liver was palpable.

The stools were watery, contained blood, mucus, and particles of undigested food. On proctoscopic examination, the mucous membrane of the rectum was reddened and edematous; it bled easily, a number of small moon-shaped ulcers were observed in the lower rectum, which also bled easily and were covered with mucus. Scrapings obtained from the ulcers showed numerous amebas and cercomonas. Blood examination: Red blood corpuscles, 2,400,000; white corpuscles, 16,250; hemoglobin, 65 per cent. Differential count: Polynuclears, 49 per cent; large mononuclears, 8 per cent; small mononuclears, 31 per cent; eosinophiles, 11 per cent; basophiles, 1 per cent.

June 4, the patient was given  $\frac{1}{4}$  grain of emetine hydrochloride; stools watery, much blood and mucus. June 5, stools frequent, of same character as day before. June 6, emetine  $\frac{1}{6}$  grain; no change in stools. June 7,  $\frac{1}{4}$  grain; stools formed, no blood, no mucus, no pain. June 8,  $\frac{1}{4}$  grain; stools more normal, with some formation. June 9, stools nearly formed, no blood, no mucus, no amebas. June 11, stools normal, patient much improved. Patient gained five pounds in weight from the 12th to the 19th and was dis-



charged on the 19th. Blood examination, June 19: Polynuclears, 68 per cent; large mononuclears, 9 per cent; small mononuclears, 21 per cent; eosinophiles, 2 per cent.

CASE VII (June 25, 1913).—G. B., aged thirty-nine years, present illness began about three weeks ago with diarrhea and pain after bowel movements; stools contained some blood and mucus. On examination, abdomen found especially tender to pressure everywhere. The stools contained blood, mucus, some pus, and undigested food particles. On proctoscopic examination, a number of small elevated ulcers were revealed. These ulcers bled easily, and were surrounded with much mucus; numerous amebas found in the scrapings of the ulcers. Blood examination: Red blood cells, 3,750,000; white, 9,600; hemoglobin, 70 per cent. Differential count: Polynuclears, 74 per cent; large mononuclears, 13 per cent; small mononuclears, 6 per cent; eosinophiles, 2 per cent.

July 1,  $\frac{1}{4}$  grain emetine hydrochloride given. July 2,  $\frac{1}{4}$  grain; stools still abundant, containing mucus, pus, and amebas. July 3,  $\frac{1}{8}$  grain; stools formed. July 4 and 5,  $\frac{1}{2}$  grain; no blood, no mucus, no amebas revealed in the stools; stools formed. July 20, left hospital, perfectly well. A proctoscopic examination showed the bowel normal, no evidence of ulceration.

CASE VIII (October 25, 1913).—D. A. E., male, aged twenty-seven years, more or less digestive disturbances for the past two years; present illness began, five months ago, with feelings of weight and discomfort in the abdomen, accompanied by eructations of gas, especially marked after the ingestion of food. Pain and burning in the abdomen at times, and frequently severe diarrhea, followed by pain in the rectum and tenesmus. Stools always liquid and contained some mucus and at times small amounts of blood. Peculiar sensation of a boring character along the coccyx and sacrum, extending as high as the first lumbar vertebra.

Examination of abdomen, nothing abnormal. Proctoscopic examination presented a highly inflamed mucous membrane, containing numerous small superficial ulcerations, somewhat elevated above the surface, and covered with mucus and blood. The ulcers were curetted and the scrapings revealed a large number of amebas and cercomonas. The gastric contents presented a total acidity of 50, free acid 20, leucocyte count 16,000. Differential count: Polynuclears, 84 per cent; small mononuclears, 12 per cent; large mononuclears, 4 per cent.

October 31,  $\frac{1}{8}$  grain of emetine hydrochloride was administered hypodermically. The patient was having ten to twelve small liquid stools a day. November 1,  $\frac{2}{3}$  grain of same drug; rectal pain had disappeared, the stools were still liquid. November 2,  $\frac{2}{3}$  grain given, stools formed, no pain, no tenesmus, no mucus. November 4, one grain given; patient well enough to be about; considerable itching over the entire body. November 5,  $\frac{2}{3}$  grain administered; patient well. November 6, and 7,  $\frac{2}{3}$  grain given. November 8, patient discharged, no further discomfort, stools normal. Leucocyte count, 9,000.

CASE IX. (January 24, 1914).—Patient of Dr. Harvey Stone, who has kindly allowed us to use this history. H. G. G., male, aged thirty-seven years, ascribed onset of his disturbance to an attack of pneumonia which he had seven years ago. He had had occasional mild attacks of diarrhea, but only in the past two years had the condition become aggravated. There were from four to ten stools a day, small, of a fluid consistency, and at times containing blood and mucus, brown in color, and their passage was usually preceded by abdominal cramps.



On examination of the abdomen tenderness was nowhere observed. On microscopic examination, feces were found to contain mucus, blood and amebas. Examination of blood revealed red corpuscles, 4,750,000; white corpuscles, 8,300; hemoglobin, 55 per cent.

January 23 and 24,  $\frac{1}{2}$  grain of emetine given three times daily. January 25, very few amebas observed; stools still contained blood and mucus; emetine continued. January 26, one stool; still taking  $\frac{1}{2}$  grain emetine, three times daily. January 27, only one stool containing still a slight amount of mucus and blood, but no amebas. January 28, 29 and 30, only one stool a day, normal in appearance, free from blood, mucus, and amebas. February 3, only one stool; no blood, no mucus, no amebas. Discharged as cured; proctoscopic examination presented rectum in almost normal condition; ulcerations not present, either in rectum or sigmoid.

From our observations, as well as those of Rogers and others, we believe we may safely conclude that:

1. Emetine is a specific in the treatment of amebic dysentery.
2. It is quickly absorbed and its effect is rapid and striking.
3. It produces no unfavorable symptoms such as nausea, vomiting and depression.
4. Other forms of dysentery are not favorably influenced by this remedy, so that its employment as a diagnostic measure is of the greatest value.
5. Recurrences after apparent cure are not infrequent. It is therefore best to treat all cases showing a tendency to relapse intermittently with emetine.

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## MALIGNANT DISEASE OF THE RETAINED TESTICLE.

WITH REPORT OF A CASE.

By DR. ARTHUR PARKER BUTT, F. A. C. S., '95, DAVIS, W. VA.,

AND

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(*From Pathological Laboratory of West Virginia University.*)

In a recent very comprehensive article on this subject<sup>1</sup> Dr. Kenneth Bulkley states that there had never been a collective study of the literature on the subject of malignant tumors of the testicles situated within the

<sup>1</sup> Surg., Gynec., & Obst., December, 1913.

abdominal cavity. He was able to collect but 57 cases; to these he added two cases coming under his own observation. Dr. Bulkley also states that these tumors occur but once in 60,000 male hospital entries.

With these statements before us it seems well worth while to report all cases.

Dr. Bulkley's paper is so complete and so recent that it seems useless to take up the subject other than to report one case with a very few comments.

Patient was referred by Dr. John T. Huff of Parsons. Age 48, weight 145; thinks he has neither lost nor gained recently. Occupation, farmer; appetite good, sleeps well. Mother and one maternal aunt died of tuberculosis, father of old age. Two deaths from cancer on father's side. Married, no children; claims to have led a vigorous sexual life until recently. Has seen that his health is failing during past year. Seeks relief from "spells with his stomach." Has had an occasional "spell" for past three or four years, three within the past nine months. Nearly all of them come on during the night; usually they come suddenly; and he often vomits before getting relief. After vomiting, is always relieved. Sometimes these attacks of pain last several hours. At first the pain was on right side, lately it has been on left.

Previous history negative. About six months ago he discovered an enlargement of the abdomen. Examination showed a man of light build, a very scanty moustache, practically no beard, and a voice rather bordering on the feminine type. Scrotum small, penis rather undersized, no testicles in scrotum or inguinal canal. Inguinal glands not enlarged. A large mass was found in left lower abdomen, hard, smooth, slightly movable. Patient was told that he had a tumor, probably malignant, of the left testicle. Consent was asked to remove right testicle no matter what its condition. Operation was performed by Dr. Butt at the Allegheny Heights Hospital on December 30, 1913. Spinal (stovaine) anæsthesia supplemented by ether. Incision over left rectus, muscle displaced towards median line. The tumor in appearance and location reminded one of an ovarian growth. Surface smooth, glistening, covered with peritoneum. Pedicle about two inches broad, attached in region of left internal ring. Very slight attachment to bladder and bowel. Tumor weighed three and one-half pounds, greatest circumference  $20\frac{1}{2}$  lesser,  $14\frac{1}{2}$  inches. Right testicle was removed from deep in pelvis. No measurements were taken but it was perhaps 25 per cent larger than normal. Convalescence was delayed by a right otitis media. This occurred on the twelfth day, drum was incised and ear had almost ceased to discharge when he left hospital. On the sixteenth day after operation he began to suffer with pain in the calf of his left leg. No pain, no swelling, until he was up walking. Left hospital on the thirty-second day, well with the exception of phlebitis of left leg. One month after this he wrote that he was not feeling well, leg swollen, unable to work. A month later he presented himself for examination. With exception of condition noted in left leg he seemed in excellent health. Had gained ten pounds. June 18, he wrote me that his general health was "not so well," weighs six pounds more than when operated, has some pain in back, is doing light work, is unable to get his bowels regulated.

**Diagnosis:** Notwithstanding the rarity of this disease, there should be little trouble in making a diagnosis if the absence of one or both testicles is noted. It seems from the literature on the subject that many men have failed to note this. This is due in some measure to the natural desire of the patient to conceal his deformity. This was the case with our patient. He had to be practically forced to uncover his scrotum.

**Prognosis.** According to Bulkley, of 59 cases operated on only three are known to be alive and well after two years.

**Treatment.** Excision of the retained testicle upon the onset of even the vaguest symptoms.

**Microscopic examination.** (Dr. Arkin.) Scattered throughout the tumor section are masses of large cells, with pale vesicular nuclei, some of which show distinct nucleoli and a clear cytoplasm. Many of these cells are irregularly arranged in solid masses forming nests or alveoli which anastomose with each other, giving to the tumor the appearance of a scirrhus type. In other areas these large cells are arranged in more or less distinct tubule formations. In still other areas, the carcinoma cells have infiltrated between the connective-tissue fibers, forming long cords or chains of cells. Mitotic figures can be distinguished in some of these cells.

The interstitial tissue is rich in darkly staining small round cells and numerous spindle cells of a connective-tissue type, between which the large round or polyhedral cancer cells are scattered. In a few places there are aggregations of lymphoid cells resembling very closely normal lymphoid tissue. In one or two areas, the dark, small, round cells are arranged about small blood-vessels, presenting the appearance of a peritheliomatous proliferation.

Scattered through the section are found round or oval pale hyaline-like areas, some of which are solid, others presenting small lumina. A few of these lumina are filled with calcareous deposits. These areas, in all probability, represent atrophied seminiferous tubules which have undergone a fibrosis. In the connective tissue, can be seen, here and there, typical giant-cells of the Langhans type, containing from 6 to 20 nuclei. The nuclei in these cells are arranged about the periphery, although in some the nuclei fill most of the cell, depending upon the direction in which the cell was cut. In some portions of the tumor these cells are

more numerous than in others, and they are found in the connective tissue.

The tumor is surrounded by a definite capsule of connective tissue, which is irregularly infiltrated with many dark round cells of a sarcomatous type, together with a few large round or polyhedral cells with pale nuclei. The small round cells form solid cords two or three cells in thickness, or else chains of two to six or eight cells lying between the connective-tissue fibers. The carcinoma cells form anastomosing bands which lie between the small round cells. These are arranged parallel to the surface and seem to have infiltrated the loose connective tissue between the capsule and the tumor, forming a distinct zone between the two. They are especially marked about some of the blood-vessels, and seem to have followed the course of the lymphatics.

The tumor shows very little evidence of necrosis, as the cells in the central portion stain quite distinctly. There is no bone tissue, cartilage, muscle or cyst formation in any portion of the tumor.

The section sent as right testicle presents no normal testicular tissue. Scattered throughout the section are many round or oval areas which stain faintly and have a hyaline appearance. They contain a few elongated connective-tissue nuclei. These are evidently remnants of the seminiferous tubules. No normal seminiferous tubules are visible in any portion of the section. The fibrosed tubules are much more widely separated than in the normal testicle. The great part of the section consists of diffuse masses of large round or polyhedral cells which contain large, pale nuclei with fine chromatin granules. These cells resemble the ones described in the tumor sections. The cancer-cells have a tendency to alveolar arrangement. Between these cells are many proliferating connective-tissue cells and numerous dark, small round cells. The cancer-cells stain more deeply about the larger vessels, and it is here also that the small round cells are most numerous. There are in this section, just as were described in the tumor section, several lymphoid accumulations. Likewise, a few giant-cells, resembling those described in the tumor, are present in the connective tissue. The capsule is infiltrated with many small round cells and connective-tissue cells in various stages of development.



The section sent as left testicle shows the cancer-cells quite numerous, with a greater tendency to alveolar arrangement. Some of these alveoli are entirely surrounded by connective tissue; most of them anastomose with one another. There are several large solid masses of these cancer-cells in the section, which have the appearance of a medullary carcinoma. These masses show no evidence of necrosis and seem to be growing rapidly. They are surrounded by an indistinct connective-tissue stroma, through which masses of cells are penetrating in every direction. The connective-tissue stroma contains many small round cells. There are several large lymphoid accumulations in this section also. Just beneath the capsule, which is not greatly thickened, are numerous darkly stained small round cells. A few giant-cells can be found in this section also.

There is no normal tissue in the section sent as epididymis. The vas cannot be found in this section. There are a few irregularly shaped compressed tubules, lined with low columnar epithelium, in one corner of the section. These are the only evidence of tubules in the epididymis. Near these can be seen several compressed canals of the rete testis. The tissue is entirely infiltrated with solid masses of cancer-cells, separated by proliferating connective tissue, which contains many small round cells and quite a few giant-cells of the Langhans type. The section also contains several lymphoid areas. In most respects it resembles the tumor section described above.

The tumor represents a case of sarcomatous carcinoma of double undescended testicles. The carcinomatous portion predominates, and the connective tissue shows evidence of sarcomatous proliferation with large numbers of small round cells. In addition, there are also giant-cells present, making the tumor an unusual one. There are lymphoid follicles present in the tumor, an observation which has been made in many mixed tumors of the testicle. The mixed tumor has involved both of the undescended testicles and the adjacent tissues.

(A complete pathological study of this case will be published later.)

INSANITY MORE PREVENTABLE THAN CURABLE.<sup>1</sup>

BY DR. L. V. GUTHRIE, '89,

*Superintendent of the West Virginia Asylum.*

Many problems of the greatest importance to the human race fall on the clergyman, teacher and on the physician, and with the co-operation and assistance of statesmen and intelligent citizenship, our efforts will be crowned with success in some proportion to the effort put forth along any particular line of endeavor.

Our constant aim should be to make life purer, happier and more efficient. A great work has been attempted all over the world in the spiritual uplifting of mankind and with purity in thought, Christian spirit in action and the elimination of disease and casualties, happiness should be at hand.

Many diseases formerly dreaded to the extent of creating a panic in an infected district are now, thanks to modern knowledge, given little concern. Legislators and employers of labor are attempting to lessen injuries to the men of the mines and factories, and science is busying itself with inventions for the protection of lives.

The great discoveries in medical knowledge are all of too recent date to necessitate more than mere mention. Smallpox, a century ago, depopulated cities and towns, and even in the memory of those of you present, this disease struck terror in your hearts when you as children learned of a case in your neighborhood. This disease now fails to terrify the enlightened. The origin and prevention of yellow fever is understood and successfully managed. Diphtheria is robbed of its many victims by early and modern treatment. Typhoid fever is preventable by vaccination, and consumption, or the "great white plague" is like an open book so far as its causes are concerned, and in many cases it is cured by modern management and perfectly natural agencies.

And so on down the list of the great enemies of our race we find a steady advance for better understanding and more satisfactory results in treatment.

The beasts of the field, the reptiles of the jungle and the birds of the air live today, when undisturbed, as they lived 100,000 years ago. This

<sup>1</sup> A paper read before the Ministerial Association of Huntington, W. Va., September 8, 1914

is not the case with man, who steadily progresses onward and upward to better conditions. There seems, however, to be at least one fatal exception. In all the great advancement we fail to find any record of a stay in the destructive hand that is driving thousands and tens of thousands to the hospitals for the insane.

There is no record of a lessening of this horrible condition, and you will find upon close examination into the subject that there is a constant increase in the number of insane, which is out of proportion to the increase in the general population.

The population of the United States increased 11 per cent from 1904 to 1910, while during the same period the number of insane persons was increased 25 per cent, more than twice as fast, and in England it is also estimated that the per cent of insanity is increasing twice as fast as the general population.

West Virginia in 42 years shows an increase of from 1 insane person to every 2100 of the general population to 1 insane person to every 580.

We are also compelled, as an act of honest fairness, to admit that the per cent of recoveries is far from satisfactory, even when the most modern methods are pursued. The question naturally arises, why is it that the prevention and cure of insanity is so far in the rear in the magnificent procession of great rewards of human thought and labor? As an answer to this question, it is necessary to review briefly the history and knowledge of mental diseases. We find that until comparatively a short time ago the subject was shrouded in superstition, ignorance and mystery.

At one time in the history of mankind the mind was supposed to be located in the kidneys, and our ancient authorities referred to the brain as a gland.

In tuberculosis, typhoid, diphtheria, etc., there is an exact understanding of the pathological conditions met with. It is a tangible condition and the pathologist can reproduce the causative bacilli in his laboratory and can study and experiment with them. The pathological condition in the patient can be studied as an exact science.

How different is all this in many mental abnormalities where the exact pathology has not up to the present time been unraveled or understood. In making this statement I do not fail to appreciate the great and valuable knowledge furnished us by investigators and students of past centuries,

but in some forms of insanity, nothing pathological to account for the symptoms can be found in the brain, even with the most powerful microscope, and no chemical analysis within present knowledge discloses the cause of the alienation.

The seat of the mind we believe to be in the brain, and the negative conception of the mind is that it is something else than the brain to which we have to refer mental phenomena, rather than regard them as functions of a physical organism. The positive conception of it is that the mind is that which thinks, feels, and wills, the subject of mental phenomena of all kinds, whether it is the nature of matter or of ether, or of both, we know not.

The investigator and student of mental disease is too often dealing with an intangible something that he can neither feel, see nor hear. One of our greatest and most recent authorities says: "We know so miserably little about the true causes of insanity." (P. 259 Kraepelin, 3d. Ed.)

From the foregoing it can be readily seen that the student of mental diseases is confronted with what seems today an insurmountable barrier to great or apparent progress. Yet when we forget pathology and look closer into the improvement, not in the cure but in the care of the insane, we know that there have been tremendous strides for better conditions.

It is a historical fact that less than 100 years ago these unfortunate people were confined in dungeons, chained to the walls or floor, and were persecuted to the point of death, and in many cases the treatment was worse than death. They were shunned, abused and what attention they received was more for the protection of society at large than it was for the patient's own welfare.

Nothing was done to place the patients in a favorable condition for recovery. The medical treatment was worse than none. Today, these most unfortunate of God's creatures are housed in well-constructed, sanitary buildings, and physicians and nurses are constantly on hand to administer to their wants and see that everything possible is done to make them comfortable and happy.

They are provided with the best of beds and bedding; an abundance of well-cooked and wholesome food is furnished all cases, and there are special meals for all whose physical health indicates any special articles of diet.



Pianos, graphophones and other musical instruments are in the wards for the use of the patients. Band concerts are also furnished. Innocent games are encouraged for their entertainment, both indoors and out. Diversional occupations are taught. Motion picture shows have become a regular part of all up-to-date institutions. Schools are maintained for the younger class of mental defectives who have sufficient intelligence to profit thereby. Daily newspapers and magazines are also available. Religious services are provided for both Protestants and Roman Catholics.

The medical staff feel gratified in the fact that they are keeping abreast of the times by special studies, visiting other institutions and centers of medical learning.

Well equipped and expensive laboratories are maintained to study the subject at hand which shed new light on the pathology and symptoms. Bright minds are devoting their lives in an endeavor to ascertain the cause and cure of many of these obscure diseases and conditions.

West Virginia appropriates annually for the insane and mental defectives \$372,500.

Within the past few years many important discoveries have been made and even the exact pathology has been understood in a few forms of insanity, and I am hopeful that light will soon be shed upon the remaining unfathomed conditions. By well defined symptomatology we are now able to classify our cases on a scientific basis.

The trained eye of the experienced observer is now directing his microscope and chemical re-agent away from the brain and toward the other parts of the body in his effort to find the cause of some of the least understood mental symptoms.

As metabolism and the functions of the ductless glands become more clearly determined, perhaps we will then better understand the cause and effect of the un-neutralized poisons in the human body and their relationship to epilepsy and the now obscured phases of insanity.

Notwithstanding the many important discoveries offering hope for the relief of insanity, notwithstanding that the history of the treatment of the disease gave much promise in a transition from exceedingly harsh to sympathetically humane methods, notwithstanding the expenditure in the United States of \$33,000,000 annually for the relief of the insane, we are yet obliged to acknowledge disappointment when the meager curative results are considered. We must in the present state of our knowledge

find our chief consolation in their better and more intelligent care and in more sympathetic and happier conditions by which they are surrounded.

It ought also to be mentioned, for instance, that among many advantages guaranteed the state by modern methods, these unfortunates cannot reproduce their kind while in State Hospitals, and the patients themselves enjoy advantages which could not possibly be afforded at home.

The mental defective is seldom if ever made normal, and by statistics taken from one of the most progressive states, we find that in 35,000 cases of insanity treated for one year, the cures amounted to less than 5 per cent.

I can, however, readily understand how private institutions treating *selected cases* and patients on *first admissions* can show 25 to 35 per cent of recoveries.

By taking into consideration this low rate of recovery, and the fact that many so-called recoveries are prone to relapse, and by taking into consideration the common causes of insanity, we become deeply impressed that insanity is more *preventable than curable*.

The great underlying or contributing cause of insanity and kindred conditions is heredity. This cause is variously estimated by different authorities to range from 50 per cent to 75 per cent in all cases. As it is difficult to obtain accurate histories in these cases it is natural there should be some divergency in the opinion of observers.

Personally, after 25 years of observation, I am led to believe that if a full and accurate family history could be obtained in each case, we would find that about 65 per cent of all cases in our public institutions can be attributed to the hereditary taint as a foundation of the disease.

It has also been conclusively shown that when both parents are feeble minded, practically all of the children are feeble minded, that the progeny of the slightly feeble-minded mother is nearly double the average number of off-spring of the normal mother, and that multiple births occur 10 times as often as among normal women. However, it would be unfair to place this increased pro-creation entirely upon the woman, for it is a well-known fact that the sexual instinct in the mildly degenerate or slightly weak-minded man is usually more developed and under less control than in a man who is blessed with great or normal intellectual development.

In a limited discussion of insanity I must not digress too far from the principal topic, but from the standpoint of the social worker, I am obliged to conclude that heredity and its relationship to insanity, epilepsy,

imbecility, pauperism, tramps, criminals, ne'er-do-wells, etc., is too intimately associated to be merely accidental.

By a long and tedious process of progressive degeneration, nature attempts to bring to extinction the feeble minded when mated with feeble minded, but this is slow, and usually does not bring about desirable results until great harm has been done.

The disadvantage of the natural process of extinction of the species, as above indicated, is apparent, and the most unfortunate part of this process in practice is that the feeble minded does not always marry the feeble minded, but sometimes mates with normal or nearly normal individuals, thereby postponing the extinction several future generations.

To overcome this great disproportion in the birth rate between the normal and the abnormal inhabitants of our country, we are compelled to admit, is a gigantic undertaking. Especially is this so in increasing the birth rate under our modern social conditions among the prosperous and normal families. However, the ratio can be improved by educating the public to the danger of the off-spring in marrying or mating with feeble minded or mentally defective families.

First: The wise man should inquire into the mental condition of his proposed wife, and also into the mentality of not only the parents, but also the grandparents, with due regard and allowance for accidental cases of abnormalities. This, of course, applies with equal force to the woman who is about to take upon herself a husband.

Second: Segregation of the mental defectives and the class under discussion into colonies will lessen the increase of this class of inhabitants. The state should be encouraged to segregate as rapidly as possible. For another class of defectives whose racial tendencies cannot be improved by education and environment, and who for any reason cannot be segregated, I would recommend sterilization judiciously applied.

Third: More stringent marriage laws and the enforcement thereof, will in my judgment be a step in the right direction, but there is much less to be hoped for by this method than theorists would imagine. It is a well-known fact that a very large number of defectives are born each year out of wedlock, and this number would probably be increased with eugenic marriage laws.

Fourth: The establishment of a Lunacy Commission or State Bureau under the Governor or State Board of Control, with broad duties of

educating the public, by inspection of hospitals for the insane, and a general supervision of all matters pertaining to insanity and kindred conditions.

Our several state governments send out well prepared and instructive bulletins concerning the prevention of hog cholera and gaps in chickens, but literature on alcoholism, insanity and heredity in the human species is conspicuous by its absence.

Among other avoidable causes of insanity the public should be educated to the great damage done our citizenship by syphilis.

There is one form of insanity now agreed upon by all authorities to be produced by this luetic infection. Statistics show that in one year the deaths from smallpox in the entire United States were 134 persons, while in New York alone during the same year 590 people died from the results of softening of the brain, dependent upon previous infection with syphilis. With our present knowledge and treatment I regard practically all cases of paresis as hopeless so far as recoveries are concerned.

Statistics further show that of those who were sent to hospitals for the insane the first time, among men living in cities 22 per cent of the cases were dependent upon syphilitic infection.

The damaging effects of alcohol upon the mental and moral condition of an individual are too well known to need extensive discussion in this paper, but I cannot refrain from reminding you of the fact that statistics show that among the first admissions to the hospitals for the insane 19.5 per cent of the cases<sup>2</sup> were produced by this agency, and this takes no account of the hundreds and thousands who reach penitentiaries and the gallows from the same cause.

In conclusion, I wish to state that there is an occasional mental defective born of perfectly normal parents, and close investigation may fail to find anything abnormal about the grand or great-grandparents, showing conclusively that hereditary influence had nothing to do with this exceptional case. These defectives are usually the result of some well-known cause or accident during pregnancy or at the time of birth.

Imbecility in rare instances in children whose ancestors are perfectly normal may also develop as the result of traumatism or some well-known organic disease of the brain.

<sup>2</sup> Among men living in cities.



These exceptions to the law of heredity are known as "accidental cases." Insanity also occurs in families with the best of ancestry. These cases are usually the result of either syphilis, alcoholism, long continued mental strain, fevers, especially typhoid, traumatism of brain, or drug addictions, the greater per cent of which are avoidable.

We need a more candid dissemination of knowledge concerning the evils of luetic disease and the great danger to the off-spring in families having a well-marked predisposition to mental disease or deficiency.

We cannot hope for improvement or remedial legislation as long as the public, through a dangerous sense of propriety, refuses frank and free discussion of the history, nature and destructive tendency of these diseases. General ignorance has lulled us into a feeling of false security, and the removal of this ignorance will afford the first important step toward relief. Recently a movement toward publicity has been powerfully encouraged by a French drama written by Brioux, called "Damaged Goods." The National Committee for Mental Hygiene of New York is also freely and candidly pointing out the dangers of syphilis, alcoholism, bad heredity, etc.

May I not suggest that you gentlemen do what you can to remove the social ban against an open and candid discussion of these lurking dangers to society?

You occupy a position to inform the public with comparative freedom, and the service you would thus render the home and state would, in the end, prove most salutary.

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## PARAHYDROXYPHENYLETHYLAMINE, A PRESSOR COMPOUND IN AN AMERICAN MISTLETOE.<sup>1</sup>

BY ALBERT C. CRAWFORD AND WALTER K. WATANABE.

(From the Division of Pharmacology, Stanford Medical School, San Francisco.)

(Received for publication, September 3, 1914.)

In 1905<sup>2</sup> one of us called attention to the fact that the intravenous injection into dogs of extracts of *Phoradendron flavescens* (mistletoe) would cause a rise in blood pressure with acceleration of the heart rate

<sup>1</sup> Reprinted from The Journal of Biological Chemistry, Vol. XIX, No. 2, 1914.

<sup>2</sup> Amer. Journ. of Pharmacy, 1905, p. 493.

and in 1911<sup>3</sup> described a method for isolating one of the pressor compounds as an oxalate, and gave provisionally  $C_7H_{11}N$  as its empirical formula. However, it was found that different samples gave somewhat different determinations; hence some impurities were suspected to be present. Recently, we have returned to this work and have found that a benzoate made from this oxalate, when crystallized from hot 70 per cent ethyl alcohol, melted at  $170^{\circ}C.$ , a melting point which corresponded to that of dibenzoyl-*p*-hydroxyphenylethylamine, and when mixed with an equal amount of the benzoate of the synthetic compound the melting point remained the same. Nitrogen determinations of this benzoate gave 4.10 and 4.14 per cent. The calculated percentage of nitrogen in dibenzoyl-*p*-hydroxyphenylethylamine is 4.06. This benzoate was hydrolyzed with 20 per cent HCl at  $140^{\circ}C.$ <sup>4</sup> and then converted into an oxalate. This exerted quantitatively the same pressor action as the oxalate prepared from synthetic *p*-hydroxyphenylethylamine. A picrate prepared from the oxalate melted at  $200^{\circ}C.$ , the same temperature at which the picrate of *p*-hydroxyphenylethylamine melted.<sup>5</sup> An oxalate was prepared from the aqueous extract of the crude plant<sup>6</sup> by making it alkaline with NaOH and shaking with ether, in order to remove any possible phenylethylamine or non-phenolic bases, then neutralizing with HCl, rendering alkaline with  $Na_2CO_3$ , shaking with ether and precipitating the base with an anhydrous ethereal solution of oxalic acid. This oxalate melted at  $204^{\circ}C.$ , as did the oxalate of synthetic *p*-hydroxyphenylethylamine.

From 100 cc. of the fluid extract of mistletoe about 150 mgm. of the oxalate was obtained by our original method,<sup>7</sup> i. e., 1 cc. would contain about 1.5 mgm. but 1 cc. of the fluid extract raised the blood pressure of dogs, with cut vagi, more than this amount of *p*-hydroxyphenylethylamine oxalate, hence we infer, as originally suggested, that there are other pressor compounds, but as yet we have not proved the presence of phenylethylamine or isoamylamine, compounds which are associated with

<sup>3</sup> Crawford: Journ. Amer. Med. Assoc., lvii, p. 865, 1911.

<sup>4</sup> Barger: Trans. Chem. Soc., xcv, p. 1123, 1909.

<sup>5</sup> Barger: loc. cit.

<sup>6</sup> The ground mistletoe was sent to us by Parke, Davis & Co., of Detroit, Mich.

All melting point readings are uncorrected.

<sup>7</sup> Crawford: loc. cit., 1911.

*p*-hydroxyphenylethylamine in ergot extracts. The alkaline distillate in which phenylethylamine should appear, if present, is inactive.

In dogs preceding the rise in blood pressure from the injection of fluid extract of mistletoe, there is a temporary fall in blood pressure, even if the vagi are cut. In ergot extracts the depressor action on blood pressure is traced to acetyl-choline and perhaps choline.\* On following Ewins' method for isolating acetyl-choline from ergot we obtained a solution which gave a temporary fall, without a rise, but as yet have not positively identified acetyl-choline in mistletoe.

\* Ewins: Biochem. Journ., viii, p. 44, 1914; Dale: Journ. of Physiol, xlviii, p. iii, 1914.

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### Marriages.

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DR. HOWARD E. HARMAN was married to Miss Grace F. Burger, on October 7, 1914, at Baltimore, Md.

DR. THOMAS BESS was married to Miss Mary Banks Macfarlane, on November 26, 1914, at Cumberland, Md.

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### Personal Notes.

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DR. CHARLES W. VOGEL, '95, has been transferred to Baltimore, and is now stationed at the United States Marine Hospital, on Remington Ave.

DR. JOHN F. SPEARMAN, '12, who was serving on the surgical staff of Mercy Hospital up to the outbreak of the European War, has joined the American Red Cross, and has been detailed to the hospital at Gleiwitz, which is in the southeastern part of Silesia, a few miles from the Russian and Austrian frontiers. DR. SPEARMAN has been making a specialty of head surgery, and a considerable amount of operating along this line has been given over to his care.

WILLIAM S. GARDNER, M. D., EDITOR,  
6 W. PRESTON STREET.

JOHN RUHRÄH, M. D., ASSOCIATE EDITOR,  
Algonquin Apartments.

CHAS. EMIL BRACK, M. D., BUSINESS MANAGER,  
500 E. TWENTIETH ST.

# THE JOURNAL

## OF THE ALUMNI ASSOCIATION

OF THE

### COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE.

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#### THE COLLEGE AND THE STATE UNIVERSITY.

Among many of the Alumni there has been a misunderstanding as to just what is meant by the affiliation of the College of Physicians and Surgeons with the newly created State University. The confusion is due largely to the similarity in the names of the Maryland State University and the well-known University of Maryland.

At its last session the legislature passed a bill chartering and establishing a Board of Regents of an institution to be known as the Maryland State University. It was expected that all institutions teaching medicine, dentistry, pharmacy, law, and the liberal arts which received aid from the State Treasury would become affiliated with this State University: but affiliation was left optional with the colleges. Three medical schools were among those named in the bill as proper institutions to be included.

At a meeting of the Board of Regents, held December 11, 1914, the College of Physicians and Surgeons and a number of other schools signed an agreement of affiliation. There was no transfer of property and no loss of independence. The essential function of the Board of Regents is to establish a minimum standard for schools receiving state aid, and to make an effort to coordinate the various schools rather than to consolidate them.

The Faculty of the College of Physicians and Surgeons has no idea of consolidating with any institution, or in any way sacrificing its identity.

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Dr. W. Edward Magruder recently started a National Investigation Bureau, with headquarters at Baltimore, Maryland. He is assisted in the direction of this Bureau by Dr. E. Eareckson. The purpose of this



Bureau is to investigate and mediate questions arising in the settlement of claims in accident, health and life insurance. This Bureau is a much needed institution, as many cases arise in the course of insurance, in which questions that are intricate and difficult to understand, need to be adjusted. The agents of the insurance companies see the subject from one side and the policy-holder views it from another. This Investigation Bureau acts, therefore, as a go-between for the company, its agents, physicians and the insuring public. A great many cases which otherwise would go to court are easily and quickly settled, with the saving of money to both parties. At the present time the courts are over-crowded with controversies over technical and other questions growing out of insurance claims. Almost all of these cases could easily be settled by mediation, if they were submitted to an impartial expert, thoroughly conversant with the details of insurance. This knowledge Dr. Magruder has acquired through his large experience in dealing with life insurance adjustments.

The Bureau is also going to establish investigation agencies throughout the country to look after the collection of facts arising from insurance claims, and anyone interested will do well to write to Dr. Magruder to see what he is doing. It is to be remembered that he recently published a book on the subject of "Claims Arising From the Results of Personal Injuries," and this is one of the most complete and authoritative volumes on the subject.

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#### PUBLIC HEALTH SERVICE.

Physicians who are taking the examination for the purpose of entering the Public Health Service, will be examined upon the subject of demography, a subject which in many medical schools is given but scant attention. The following list of questions has been prepared to illustrate the scope of the examinations in question, and will be found of interest not only in this connection, but by practitioners of medicine who wish to test themselves in their knowledge of this subject. The readers of the JOURNAL will probably take great interest in seeing how many of the questions they can answer intelligently.

#### VITAL STATISTICS.

1. What are vital statistics?
2. What is meant by demography?

## POPULATION STATISTICS.

3. How is the population of a city or state ascertained?
4. For the purposes of vital statistics, how is the population of a city or state ascertained for years between censuses?
5. Discuss methods of estimating population for intercensal and postcensal periods.
6. Discuss the relationship between population statistics and birth, marriage, morbidity, and mortality statistics.
7. A city had 100,000 inhabitants at the time of the taking of the Twelfth Census (June 1, 1900), and 123,700 at the time of the taking of the Thirteenth Census (Apr. 15, 1910). Give the estimated population of that city as of July 1, 1915, on the basis of arithmetical increase.
8. In a city having a population of 57,600 April 15, 1900, and of 66,300 April 15, 1910, what will be the estimated population as of July 1, 1914, the estimate to be made on the basis of arithmetical increase?
9. In a city of which the enumerated population April 15, 1910, was 66,300, and in which the average annual rate of increase during the previous intercensal period figured on a geometrical basis of increase had been 3 per cent, what will be the estimated population as of April 15, 1915, figured on the geometrical basis of increase?

## MARRIAGE REGISTRATION AND STATISTICS.

10. What purposes are served by the registration of marriages?
11. Describe a common method in use in the United States by which the registration of marriages is accomplished.
12. What are marriage rates?
13. How are marriage rates expressed; that is, in what terms are they usually stated?
14. What factors influence marriage rates?
15. In a city having a population of 53,420 inhabitants at the taking of the Twelfth Census (June 1, 1900), and of 72,643 at the taking of the Thirteenth Census (April 15, 1910), there were during the calendar year 1913, 576 marriages recorded. What was the marriage rate for the year?

## BIRTH RECORDS AND STATISTICS.

16. What purposes are served by the registration of births?
17. What is a birth certificate, by whom should it be made out, and with whom registered?
18. Describe a method in common use in the United States for the registration of births and the compilation of birth statistics for a state.
19. What are the essential data usually required in birth certificates?
20. What are birth rates?
21. How are birth rates expressed; that is, in what terms are they usually stated?
22. What factors influence birth rates?
23. What uses are made of birth records in public health administration?
24. Upon what does the accuracy of birth records and birth statistics depend?
25. The city of E had 125,632 inhabitants on January 1, 1913, and 130,368 inhabitants on December 31, 1913. During the month of June, 1913, there were 247 births and during the month of July, 1913, there were 223 births recorded. Give the birth rate for the city during the period June 1 to July 31, both days inclusive; also give the birth rates for June and July separately.

26. In a city which had a population of 44,360 April 15, 1900, and of 53,230 as enumerated April 15, 1910, and which, during the calendar year 1913, had 1,376 registered births, what was the crude or general birth rate for the calendar year 1913? In estimating population use the arithmetical method.

#### MORBIDITY REPORTS AND STATISTICS.

27. What are morbidity reports?
28. How are morbidity reports obtained?
29. What are morbidity statistics?
30. How are morbidity statistics obtained?
31. Describe a method in common use in the United States for securing morbidity reports.
32. What purposes are served by morbidity reports? Of what use are they to a local health department? Of what use to a State health department? Of what use to the Federal health service?
33. Why is the reporting of cases of communicable diseases to the health department by practising physicians necessary for the control of these diseases?
34. What factors influence the completeness with which morbidity reports are obtained in a community?
35. Upon what does the accuracy of morbidity reports depend?
36. What are morbidity rates?
37. What are crude morbidity rates?
38. What are specific morbidity rates?
39. How are morbidity rates expressed, that is, in what terms are they usually stated?
40. What are fatality, or case mortality rates, and how expressed, that is, in what terms are they usually stated?
41. The city of F had an estimated population of 324,000 on July 1, 1912. During the year 953 cases of typhoid fever were reported in the city, and there were 51 death certificates registered, in which typhoid fever was given as the cause of death. Give the typhoid morbidity rate, case mortality rate, and death rate.
42. The population of the city of G was 11,400 at the time of the taking of the Twelfth Census, June 1, 1900. On April 15, 1910, the population was 14,560. During the year 1912, 75 cases of diphtheria occurred in the city. Of the 75 cases 6 terminated fatally. In making a report of the epidemic what would you report the morbidity rate of diphtheria to have been, what the diphtheria fatality (case mortality) rate to have been, and what the mortality rate?

#### DEATH REGISTRATION AND STATISTICS.

43. What purposes are served by the registration of deaths?
44. What is a death certificate, by whom is it made out, and with whom registered?
45. Describe a method in common use in the United States for the registration of deaths.
46. What are the principal data called for by the United States standard death certificate?
47. What is the registration area for deaths of the United States Census Bureau?
48. What are mortality statistics?
49. What are death rates?
50. How are death rates expressed, that is, in what terms are they usually stated?

51. What are crude death rates, specific death rates, standardized (sometimes called corrected) death rates?
52. What factors influence crude death rates?
53. What effect have variations in age distribution of population on crude death rates?
54. Upon what does the accuracy of death registration and mortality statistics depend?
55. What uses are made of the records of deaths and of mortality statistics in public health administration?
56. How is the data obtained from which the United States Census Bureau compiles the mortality statistics of the registration area for deaths?
57. To what extent do mortality statistics show the actual causes of death and upon what does their accuracy in this depend?
58. On July 1, 1914, the city of D had 51,200 population. During the calendar year 1914 there were 896 death certificates registered. How would the crude death rate for the year 1914 ordinarily be expressed?
59. In a city having a population of 44,360 on April 15, 1900, and of 53,230, as enumerated April 15, 1910, and which during the calendar year 1913 had 932 registered deaths, give the crude, general, or central death rate for the calendar year 1913.
60. In a city which had a population of 44,360 on April 15, 1900, and 53,230, as enumerated April 15, 1910, and which during the first six months of the calendar year 1913 had 530 registered deaths, express the death rate for this period in terms of an annual rate per 1,000 population.
61. In a city which had a population of 44,360 on April 15, 1900, and 53,230, as enumerated April 15, 1910, there were during the month of April, 1913, 103 registered deaths. Give the April death rate expressed in terms of an annual rate per 1,000 population.

#### INFANT MORTALITY AND LIFE TABLES.

62. What is meant by infant mortality?
63. What are infant mortality rates and how expressed?
64. What are life tables?

The following is a copy of the advertisement of the College now running in the Journal of the American Medical Association. Attention is called to the announcement of the course covering the pre-medical college year, and to the statement that "The College of Physicians and Surgeons has not merged with any other medical school and no merger is contemplated."

### College of Physicians and Surgeons of Baltimore

FORTY-FOURTH ANNUAL SESSION BEGINS OCTOBER 1, 1915

Admission requirements—one year of college work in Biology, Chemistry, Physics and one modern language, in addition to 15 units of High School work. The college year may be taken as a pre-medical course at The College of Physicians and Surgeons by those students who have absolved the four year high school requirement. The clinical facilities in Medicine, Surgery and Obstetrics are unusually good. The Laboratories are well equipped and the technical training is thorough. THE COLLEGE OF PHYSICIANS AND SURGEONS HAS NOT MERGED WITH ANY OTHER MEDICAL SCHOOL AND NO MERGER IS CONTEMPLATED. For catalogue or information address:

WM. F. LOCKWOOD, Dean, Calvert and Saratoga Streets, BALTIMORE, MD.



## Obituary.

---

DR. ROBERT W. EANES, Washington University School of Medicine, Baltimore, '70, a Confederate veteran; died at his home in Eanes Cross Roads, Va., September 19, from nephritis, aged 68.

DR. EDWIN KINDLE WILLIAMS, '83, a member and once first vice-president of the Arkansas Medical Society; died at his home in Arkadelphia, Ark., September 11, from pneumonia, aged 50.

DR. CHRISTOPHER S. NEWBILL, '75, for many years health officer of Norfolk, Va.; died suddenly September 26, from cerebral hemorrhage, while driving near his home in Tappahannock, Va., aged 63.

DR. JOHN FRANKLIN MACKLEY, '82, a clergyman of the Reformed Church, and secretary of the Board of Health of Fairfield, Pa.; died at his home in that place, September 16, from heart disease, aged 59.

DR. GEORGE WASHINGTON BOYD, '95, a Fellow of the American Medical Association, and proprietor of several drug stores in Washington; died at his home in that city, November 21, from nephritis, aged 55.

DR. SHANNON P. PECK, '77, a member of the West Virginia State Medical Association; twice mayor of Hinton, W. Va., and for several years chief surgeon of the Chesapeake and Ohio system; died suddenly, September 16, while driving with a friend in his motor car.

DR. HENRY CLAY DEVILBISS, '77, a Fellow of the American Medical Association; formerly president of the Medical Society of Franklin County, Pa.; treasurer of the Cumberland Valley Medical Association, and since its organization, a member of the medical staff of the Chambersburg Hospital; died at his home in Chambersburg, Pa., May 17, aged 65.

### RESOLUTIONS IN COMMEMORATION OF DR. GEORGE W. BOYD.

The following resolutions were adopted by the Medical Society of the District of Columbia, on December 9, 1914:

DR. GEORGE W. BOYD was born in Washington, D. C., November 18, 1859, and died at his home, 121 2d Street, N. E., November 21, 1914, having just attained the age of 55 years.

He was educated in the public schools of Washington and graduated from the National College of Pharmacy of this city in June, 1880. Later

he entered the College of Physicians and Surgeons, at Baltimore, Md., receiving his degree from that institution in April, 1895. He at once entered upon the practice of his chosen profession, which he actively continued up to the time of his last illness.

Dr. Boyd was recognized as one of the leaders of the profession in the east section of the city and had established a very lucrative and extensive practice. He was noted for his acts of charity and kindly consideration for the indigent.

Had Dr. Boyd lived, medical literature would have been enriched by a valuable contribution along scientific lines upon which he was busily engaged at the time of his death.

He was of a retiring, unassuming nature and rarely took part in the discussions before the medical society, but his interest in the same was manifested by his regular attendance at the weekly meetings.

Your committee would therefore offer the following resolutions:

*Be it Resolved*, That in the death of Dr. George W. Boyd, this Society has lost a valued, honored and zealous member, and his colleagues a staunch, ethical and willing co-worker; and be it further resolved, that a copy of this modest tribute to his worth, and expression of sympathy and regret of this body, be sent to his family.

JOHN SHERIDAN ARNOLD, M. D.

EDWARD WARREN BURCH, M. D.

GEORGE P. LOCHBOEHLER, M. D.

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## Correspondence.

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CAMBRIDGE SPRINGS, PA., October 26, 1914.

*Dear Doctor Brack*.—Enclosed please find check which covers arrears in subscription to JOURNAL and the balance credit to my account for the JOURNAL in the future. Had hoped to visit Baltimore this fall, but having taken a trip to the Pacific Coast several months ago, will have to postpone it until some future time. While in Salt Lake City had the pleasure of seeing Dr. Ross Anderson and visiting his hospital. It is one of the finest and best equipped hospitals I have seen. It surpassed all others I saw throughout the West. Dr. Anderson is having great success in his work.

Sincerely yours,

D. C. Mock, M. D.

POYNER'S HILL, N. C., October 27, 1914.

DR. CHAS. EMIL BRACK, Baltimore, Md.

*Dear Doctor.*—I am enclosing my check for \$7.00, \$5.00 of which is for the Alumni Fund and balance for subscription to the JOURNAL of the Alumni Association. Will you please turn this over to the proper authorities? I have been intending to respond to the call of the Alumni Association for a long time, but have been so busy that it was forgotten till the last issue of the JOURNAL came in and refreshed my memory.

I graduated in the class of '94 and have no right to complain at the treatment I have received from the world in any way since. I did have a small misfortune in January, 1913. I lost by fire all of my household goods, including library, state board certificates, special course certificates, diploma and in fact everything that one would naturally collect and have in his home during 20 years of his most active life. I cannot, of course, get the old diploma back nor the same names on a new one, but would like to have one just to remember the old college by if nothing more.

Very truly yours,

JULIAN C. BAUM, M. D.

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#### PITUITARY EXTRACT IN OBSTETRICAL PRACTICE.

Physicians who are employing pituitary extract in cases of delayed parturition will be interested in this excerpt from an announcement by Parke, Davis & Co., which appears in the December issue of a contemporary:

"The clinical indications for Pituitrin are such as to demand that it be of high activity. It is equally important that it be uniform in strength. Owing to unavoidable variations in the fresh glandular tissue, the amount of gland substance represented in a preparation is not an accurate index of its strength. Uniformity in therapeutic activity can be obtained only by rigid assay.

"Because of its importance in obstetrical practice we have given much attention to a determination of the proper strength and standardization of Pituitrin. The result of our investigations is a product of high potency, representing the average activity of 0.2 gram of fresh posterior pituitary lobe to each cc. of the solution. As an oxytocic Pituitrin stands without a rival. There is no more active pituitary extract.

"Pituitrin, P. D. & Co., is standardized by the two accepted methods of determining pituitary activity: the blood-pressure test and the oxytocic test, the latter by use of the isolated uterus. Every lot of Pituitrin represents the same high degree of activity."

Administered during the second stage of parturition (it should not be given during the first stage), Pituitrin is said to convert a case of tedious inertia into one of normal rhythmic labor, saving time, preventing suffering, and diminishing the risk to the child which attends upon protracted labor. It is supplied in glaseptic ampoules of 1 cc. and  $\frac{1}{2}$  cc. capacity, convenient for hypodermic injection.

# The Ductless Glands.

---

The therapeutic use of the DUCTLESS GLANDS is a live topic at this time.

We are able to supply limited quantities of those mentioned below, *with full assurance of their identity and quality*. Their field of usefulness has not been well defined, and the evidence so far available is mainly suggestive. In view of these facts, we supply the material without recommendation.

## PARATHYROIDS (DESICCATED).

Tablets, each equivalent to  $3/5$  grain of the fresh gland.

Employed in such diseases as paralysis agitans, chorea, epilepsy and tetany.

## PINEAL GLAND (DESICCATED).

Tablets, each equivalent to  $1/2$  grain of the fresh gland.

Suggested for use in treating mentally defective children, particularly in cases where there is no physical defect. Of possible value in mongolism.

## ANTERIOR LOBE OF THE PITUITARY BODY (DESICCATED.)

Tablets, each containing  $2\ 1/2$  grains of the desiccated tissue.

Of possible value in peculiar disturbances of metabolism, delayed development (both mental and physical), and certain derangements of the genito-urinary system.

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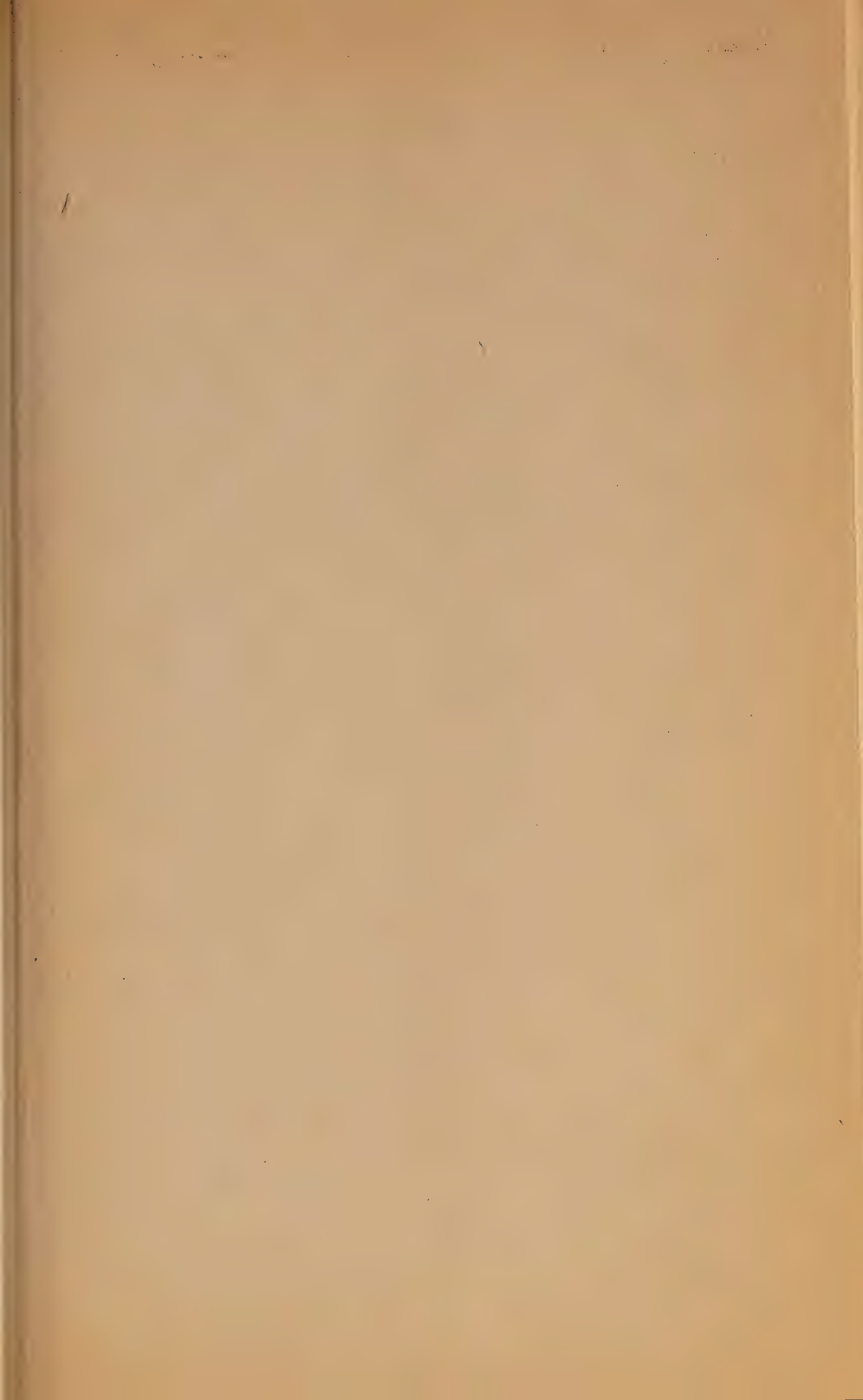
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## JOURNALS ON FILE IN THE LIBRARY.

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1. American Journal of Anatomy.
2. American Journal of Biological Chemistry.
3. American Journal of Diseases of Children.
4. American Journal of Insanity.
5. American Journal of Medical Sciences.
6. American Journal of Physiology.
7. American Journal of Obstetrics.
8. American Medicine.
9. American Chemical Journal.
10. Annals of Otology, Rhynology and Laryngology.
11. Annals of Surgery.
12. Archives of Internal Medicine.
13. Brain.
14. Johns Hopkins Hospital Bulletin.
15. Medical and Chirurgical Faculty of Maryland.
16. Chemischen Berichte.
17. Chemical Abstracts.
18. The Clinical Journal.
19. Journal of Experimental Medicine.
20. Journal of Medical Research.
21. Journal of Pathology and Bacteriology.
22. The Lancet.
23. Laryngoscope.
24. Mitteilungen und der Medizin & Chirurgie.
25. Index Medicus.
26. Journal of American Chemical Society.
27. Journal of Abnormal Psychology.
28. Journal of Mental and Nervous Diseases.
29. American Medical Association Journal.
30. Medical Record.
31. New York Medical Journal.
32. Institute Quarterly.
33. Southern Medical Journal.
34. Ophthalmoscope.
35. Zerschrift Urologie.
36. Journal of Obstetrics and Gynecology of the British Empire.
37. Dominion Medical Journal.
38. Old Dominion Monthly.
39. The Boston Medical and Surgical Journal.
40. Journal of Alumni Association of P. & S.
41. Journal of Physiology.



# College of Physicians and Surgeons

## OF BALTIMORE.

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OUR PUBLIC HEALTH SITUATION.\*

By WILLIAM W. GOLDEN, M. D.,

*President of West Virginia State Board of Health, Elkins, W. Va.*

*Gentlemen:* It augurs well for West Virginia that its Board of Trade has seen fit to give a part of its time to a discussion of public health affairs. It signifies the recognition of the fact that the conservation of our vital assets is at least as important as the conservation of our natural resources or the promotion of agricultural and industrial developments. It shows that the minds of our leading citizens at least have emancipated themselves from the fatalistic idea that the average duration of life is fixed, but instead, have adopted the scientific fact that this average varies with conditions, and that, although civilization has greatly lengthened it, it has by no means reached the limit. Just how far that limit can be advanced there may be room for difference of opinion. It is my belief that with a sensible application of the principles of eugenics and the elimination of the communicable, occupational and industrial diseases and accidents we may expect the average duration of life to even exceed the figure of the Psalmist. But all must agree that advance it will if we are to be guided by the experience of mankind in the past and present times. In the sixteenth century the average duration of life was 21 years; in the seventeenth century it was 26 years; in the eighteenth century it was 34 years; in the nineteenth century it was 40 years, and at the present time it is 45 years. What is most significant is that the increase in the last few decades has been greater than in any whole century of former times and also that at

\* Address delivered at the annual meeting of the West Virginia State Board of Trade, October 14, 1914, Wheeling, W. Va.



the present time the average duration of life in India does not exceed 24 years. In other words, the average duration of life has kept pace with the degree of sanitary living, and it is hardly necessary to stop to explain that this is not a matter of coincidence, but one of cause and effect. Is there anything in this general consideration to interest you and me as West Virginians? For while as citizens of this great republic we are naturally interested in the conservation of the vitality of the whole nation and while in fact as members of the human family our sympathies are with every endeavor against conditions which tend to shorten life, as West Virginians it is our particular duty to lengthen the life-span of our own people, thereby adding to the efficiency and greatness of our state. In fulfilling this duty we incidentally serve our country and mankind.

### I. OUR PUBLIC HEALTH IS UNSATISFACTORY.

At the very outset of a discussion of our public health affairs I am handicapped by the fact that no figures are available by which I could clearly and briefly present to you our deficient sanitary and hygienic conditions and their consequences. West Virginia is not in the registration area of the United States. We have a law providing for vital statistics, but we have no vital statistics worth the name. This law as well as a number of others pertaining to public health seems to have been placed in our code more for the sake of literary completeness than for practical benefit. The machinery provided for the gathering of vital statistics is utterly inadequate. Vital statistics is the science of numbers applied to the life history of states and nations. The compilation of accurate records of births, deaths, diseases and accidents is the indispensable first step in any serious effort to prolong life and make it more efficient. A board or department of health without vital statistics is like an army engaged in war "without scouts and spies to ascertain the number and position of the enemy's forces, their arms and supplies and their plan of attack." Says Dr. Wilbur: "Sound vital statistics are the indispensable basis of modern sanitation. A nation that does not consider it necessary or is not able to provide adequate means for registering the births of its own children or for officially recording the deaths of its citizens can hardly be supposed to attach sufficient value to human life to enable sanitary measures for its conservation to be adequately carried out." What is our

birth rate and death rate? We don't know. What is the average duration of life in West Virginia? We don't know. Have we any figures for exact comparison with other states of the number of the insane and the defective? We have not. Have we the exact figures to show the number of cases of tuberculosis, typhoid fever, pneumonia, cancer, scarlet fever and similar serious diseases? We have not. However, while exact figures are not available, those of us who are officially and otherwise in touch with these matters have a correct, though only approximate, idea of the status of our vital assets. And I feel justified in saying to you that the duration of life in West Virginia is not as long as it should be; and moreover, it is not as long as it is in neighboring states of like physical environment. Were it not for the constant stream of immigration incident to our industrial development, this fact would have become strikingly evident to anybody. We have too many deaths from preventable diseases.

#### OUR TYPHOID FEVER.

As I have already intimated to you, exact figures of deaths are not available. I did, however, succeed in working out reliable figures concerning typhoid fever in the year 1910. I will not weary you with an account of the methods by which I have obtained these figures. Suffice it to say that they have been pronounced as being an underestimation by men well qualified to judge, and as a matter of fact in every step of this investigation and in all the calculations I have deliberately aimed to keep below the actual facts. These conservative figures show that in that year we had 700 deaths from typhoid fever and not fewer than 7,000 cases of this disease. Perhaps you will more fully appreciate the significance of these figures if I tell you that in proportion to our population they represent twice as many deaths and twice as many cases as occurred in the rest of the United States in that year. I must add that 1910 was not a typhoid fever year with us. On the contrary I have reason for asserting that it was a year of normal typhoid experience. A partial study of our typhoid experience of 1913 indicates that our typhoid morbidity in that year was nearly twice as large as in 1910. I have been paying particular attention to the typhoid fever situation in our state, partly from the fact that by itself and its direct consequences it constitutes, to my mind, the greatest curse to our commonwealth, and partly because the degree of prevalence

of this disease is considered a reliable index of the prevailing sanitary conditions. It is an established fact that wherever the conditions causing losses from typhoid fever have been removed losses from certain other diseases have been stopped thereby even to a greater extent. That this should be the case with reference to the diseases of the gastrointestinal tract is obvious, but that this should also be the case with reference to tuberculosis and pneumonia is not so obvious, but nevertheless true to a marked extent. Many towns in our state are having their typhoid fever epidemics the year round, and for many years in succession. I have at my hand the report of 81 cases in one year in a town of 2000 population. And it has been there this way and worse for several years. In other words, that community has been offering every year four per cent of its population to suffering from typhoid fever alone. Add to this the suffering and losses that it sustains from other diseases and you will perceive how deplorable the condition of that community must be and what a drain this must be on our vital resources. And the experience of this community is not at all rare. Even while I am writing this a report reaches me of a small town in which 10 per cent of its population suffered last year from typhoid fever. Bad as the situation is with many of our towns, it is still worse with our farming population. Typhoid fever is very common on our farms, and it is very common to see the whole family of a farmer stricken with it.

#### OTHER DISEASES.

I cannot speak with the same definiteness of the prevalence of the other communicable diseases. It is impossible, for instance, to even make a rough guess of the number of cases of diphtheria, scarlet fever, measles, pneumonia and the like which annually occur in our midst. But this much is certain—that they are responsible for a very large number of premature deaths and for a great amount of partial and complete invalidism, and that at least a majority of these could be easily prevented. Diphtheria is entirely too common. Scarlet fever of a type as severe as ever is not only causing the loss of many precious lives among children, but is a frequent cause of demoralization of school work and occasionally of business in our smaller towns. A veritable scourge of this disease raged in a large section of this state during a greater part of this year. In one



place to my personal knowledge a mother and four of her children succumbed to it within a few days. Epidemics of cerebrospinal meningitis fell heavily this year upon certain sections of the state. Pneumonia is still common and as deadly as ever. Measles and whooping cough are as common as ever, in fact so common that our people look upon them as unavoidable, which is not true, and submit to the very serious consequences of these diseases with a resignation which is uncalled for. Infantile paralysis, too, has quite a footing in our state. And some of you may be surprised to learn that an investigation conducted last summer by the State Board of Health showed that we are not strangers to the hookworm. Perhaps more incredible than all is that we are still having frequent epidemics of smallpox, a disease which can be absolutely prevented from ever spreading in our midst by placing a suitably worded single sentence on our statute books. Compulsory vaccination has made this loathsome disease practically unknown in whole countries. Our law leaves this to each county court, and the county court can only act upon the written petition of a hundred citizens of the county.

#### THE MEANING OF ALL THIS.

In discussing with the laity the losses caused by disease it is customary to reduce the same to terms of dollars and cents. It is presumed that people generally can comprehend things better in terms of money and are more apt to become impressed with figures representing big sums. A monetary value is placed upon the productiveness of the patient. To this are added the expenses incidental to care and burial and the sum of the financial loss is thus arrived at. To this also should be added the money lost through suspension of or serious interference with business on account of quarantine. I have in mind a virtually complete interruption of business last winter for many weeks in a town of large size on account of a grave epidemic of scarlet fever, and a similar experience in another large town a year before that, during the height of the holiday season, on account of a laxly handled outbreak of smallpox. But it has always seemed to me that this method of driving home the necessity for efficient public health work falls far short of its object. Of course there is a great deal of more or less direct financial loss in connection with sickness and death. Large as this is, it is certainly no more than a small fraction of



the indirect loss to the family and to the community. In fact the indirect loss is almost incalculable. When a child is prematurely orphaned and because of the lack of parental guidance and aid it grows up with physical, mental and moral powers short of their natural capacity, who can estimate the amount lost thereby to the family and to the state? And where is the standard by which we can measure the mental anguish of the bereaved mother and its permanent effect upon her own constitution and upon that of her future offspring? If one must reduce all this to a pecuniary basis, he must not stop his calculations with the losses as readily evidenced by the home, by the hospital and by the town. He must continue them through our insane asylums and through our charitable and penal institutions. And he must continue them through the next generation and the next and the next. Looked at in the light of these considerations, then, the losses sustained by our state in 1910, for instance, through the 700 deaths from typhoid fever alone, become staggering in their proportions and bearings.

#### A BRIGHT SPOT.

After passing before you this array of depressing facts, I must pause for a moment to point out to you a bright spot in our public health situation, one that along with its cheering effect imparts an instructive lesson. It is with much pride and delight that I am able to state that there has been a marked abatement in the number of cases of tuberculosis in the past few years, and that indications point to a progressive continuance of this happy state of affairs. Again, there are no figures available to enable us to speak with exactness, but there is no question of the correctness of this observation. It may be well to admit that some of the credit for this is due to the general influence of enlightenment which in recent years has radiated all over the world concerning this disease. But it is a fact that much of this is due directly to the efforts of our anti-tuberculosis leagues and to the high intelligence of our legislatures of recent years. The campaigns of education conducted by these leagues have had their effect and the state has never spent a dollar more profitably than the money it appropriates for the work of the State Anti-Tuberculosis League and the sanitarium at Terra Alta. Our experience with tuberculosis furnishes a striking lesson of what can be accomplished in matters of public health by

suitable legislation, a sufficient appropriation of money, plus a willingness to help on the part of some of our citizens who have a proper regard for their civic duties and who are in a position to give a part of their time to their performance.

## II. OUR SANITARY CONDITIONS ARE UNSATISFACTORY.

I believe that I have said enough to convince you that the public health situation of our state is unsatisfactory, and, as a corollary, it follows that the sanitary conditions of our state are unsatisfactory. Through the amendment of 1913 with its provision for an increased appropriation and under the intelligent and encouraging influence of our exceptionally qualified governor, the State Board of Health has been able to make a beginning in improving our sanitary conditions. But for reasons that will appear later the efforts of the board could not go beyond a small beginning. Our sanitary conditions remain unsatisfactory. In fact, some of them could hardly be worse. It would make this address unduly long to attempt to describe many of these conditions, and I am, therefore, compelled to content myself by directing your attention to only a few of them. Let us begin with the matter of pollution of streams.

### THE POLLUTION OF OUR STREAMS.

Section 5365 of our code says something which probably can be interpreted that it is unlawful to pollute our streams with town sewage, and Section 5338, among an almost innumerable number of duties assigned to the State Board of Health, connects the board in an expert and advisory capacity with the matter of the disposal of sewage and the obtaining of a water supply by communities. In addition to the vagueness of the language no practical power is given to the board in this matter and available funds are entirely insufficient to enforce that which the law seems to contemplate. Our game warden and his deputies have more power conferred upon them to enforce the protection of game than has our Board of Health to protect our people from the dire consequences of polluted water. As a consequence, with the exception of the streams of the very sparsely populated mountain districts, those in the rest of the state virtually constitute a huge sewer system, while at the same time they furnish the water supply for a very large part of our population.

The water edge of our rivers presents the disgusting spectacle of a series of pipe ends, consisting alternately of sewer mouths and intake pipes. When a town has placed its intake pipe in the river at a point above where it empties its own sewage it feels safe, either forgetting that, as a matter of fact, its intake pipe is below the sewer mouth of the neighboring towns up the stream, or being in ignorance of the fact that sewer-laden water does not ordinarily completely purify itself by traversing the distance of a few miles. It has recently been brought to my attention that one of our large cities is contemplating the construction of a sewer to empty into the river above a point from which that very town gets its water supply. I am glad to say, however, that this is a very exceptional case, and that, owing to the opposition from the intelligent element of that community, it is probable that this will never go into effect. So common is this form of stream pollution in this state that it seldom attracts attention. When stream pollution is taken up for discussion, it is generally expected that reference is made to the chemical pollution of streams by waste products from factories, such as tanneries and pulp mills. To the injurious effects of this form of pollution our people seem to be keenly alive, and it is interesting to see what a commotion will be stirred up by the appearance of a few dead fish in a river. Chemical pollution, of course, can be injurious and is undesirable, but as far as our public health is concerned its importance is negligible compared with the consequence of biological pollution. I cannot speak with authority of the effect of this form of pollution upon fish, but I know its effect upon our citizens is to send many of them to premature graves and to cause an untold amount of loss and suffering.

#### THE PROBLEM OF A SAFE WATER SUPPLY.

The problem of a safe water supply for our town people is quite a complicated one. There are many economic and technical difficulties connected with it. If our towns are to cease draining their sewage into our streams, they must find other sanitary methods by which to dispose of it, and this in the case of many of them may mean incurring expenses beyond their taxable limit. Again, if our towns are to be permitted to use the streams for the disposal of sewage, they must either find another source for their water supply, or they must institute purification plants, neither of which is practical in many cases either for geological or for



financial reasons. Nor is this problem a very simple matter in the case of our mills and factories. For the state to legislate that these plants should at once cease discharging their waste products into our streams, without a study of the technical problems involved by a competent sanitary engineering department, would cause many of them to emigrate and thereby bring about the collapse of many of our towns. However, complicated as this problem is, it must be solved.

#### OTHER UNSANITARY CONDITIONS.

Turning from the problem of the pollution of streams, which in a direct way principally concerns the inhabitants of our towns and cities, we may profitably look for a moment at some of the conditions prevailing on our farms. As many of you are undoubtedly familiar with the very primitive way in which human refuse is disposed of on the farm, I shall save you and me a description of it in the interest of our esthetic sense. To make my point, however, I cannot omit to ask you to recall in your minds for just an instant the proximity there of the primitive privy to the very indifferently constructed well and the superabundance in the dining room and kitchen of flies which never wipe their feet. You will, therefore, not be surprised to learn that in proportion to population there is more typhoid fever among our farmers than in any other class of people. The natural and healthful conditions of farm life should prove a substantial element in the prolongation of our average life, and would have undoubtedly done so to a marked degree were it not for the great prevalence of typhoid fever among our farmers. Many of the other communicable diseases are entirely too common among our farmers, but none is so common and none so depleting as typhoid fever. Typhoid is the Nemesis of our farming communities.

The sanitary conditions of our better class of hotels and restaurants have been somewhat improved by the hotel inspection law of 1913. There is a great deal of room for improvement in them, and when we look into the conditions of hotels accommodating the masses of our people we find them as bad as ever, for the law entirely exempts from inspection hotels charging a dollar and a half a day or less. Many of our boarding houses are hotbeds of disease. Some of our private hospitals are a menace to their inmates and their neighborhoods. The sanitary and hygienic con-



ditions of our rural schools are quite bad. We have something in the law and still more in the State Board of Health regulations requiring proper sanitary conditions in public conveyances. The offensive as well as unsanitary conditions common on the trains, especially of our smaller railroad lines, are familiar to all of you.

#### MEDICAL QUACKERY INJURIOUS TO PUBLIC HEALTH.

Before leaving this part of our subject it is perhaps not improper that I should allude to the prevalence of medical quackery in our state. For this also is affecting, and I should say to a perceptible degree, the duration of our average life and to a very marked extent the efficiency of our people. I believe that while typhoid fever is probably at the head of the list of our causes of preventable deaths, medical quackery heads the list of causes of preventable invalidism. Our code takes extensive notice of the need to protect our people against pretenders in the healing art and contains elaborate provisions for this purpose. Very properly does it demand that before anybody can claim to have the life and health of our citizens entrusted to his professional care he should present evidence of training in the knowledge of the normal structure and the normal functions of the body and in the proper understanding of its abnormal conditions and diseases, as well as in a familiarity with approved methods of treatment. Our law could not have done less, although it could have done more by requiring that in addition every practitioner of the healing art should receive a decent preliminary education. Our law is quite liberal and gives recognition to several so-called medical schools, putting them all on an equal footing. Our State Board of Health, charged with the execution of this law, is noted for its extreme fairness in its examination of candidates for the practice of the healing art. Notwithstanding all this, there are hundreds of men in this state treating the sick and thriving upon their credulity who have no license to practice and who have not as much knowledge of the human body as have at the present time the pupils of the eighth grade in our public schools. And all this apparently because our lawmakers have failed to make it clear that by the term "practice of medicine" is meant the practice of the healing art, regardless whether drugs are or are not used in this practice.

*(To be Continued.)*

## ANEURYSM OF THE POSTERIOR TIBIAL ARTERY.\*

WITH REPORT OF TWO CASES.

BY ALEXIUS McGLANNAN, M. D., BALTIMORE.

The method of direct suture for the repair of wounded vessels was applied to the treatment of aneurysm very soon after its discovery. Later, principally through the work of Carrel on vessel transplantation, another impetus was given to this study. An ideal method, therefore, has been developed for the treatment of aneurysms which has for its object the removal of the defect in the vessel and the provision of a new channel through which the blood may flow over its original course.

The ideal method aims at success without the assistance of a collateral circulation. In cases in which the collaterals are well developed, the ideal operations put a needless burden on both patient and surgeon, because not only are they difficult to perform but also they frequently fail on account of the generally diseased condition of the vessel involved. Such failures, due principally to embolism or hemorrhage, jeopardize the limb, often demanding amputation on account of gangrene. When the collateral circulation has not been established the ideal operation becomes more dangerous for the patient, especially if the vessels are sclerosed. The risk of ligation in such cases is well known, and it is here that the endo-aneurysmorrhaphy of Matas or the bands of Halsted are of greatest value. These methods diminish the flow of blood through the aneurysm, and provide for its gradual occlusion, during which time an adequate collateral circulation may develop. The great superiority of the bands over other forms of occlusion lies in the slight disturbance of the vessel incident to their application.

These considerations apply most forcibly to aneurysms of the larger vessels. For smaller vessels the choice of treatment is between ligation, on the one hand, and excision or obliteration, on the other.

Although the probabilities of gangrene are nearly equal in either form of treatment, ligation has a great disadvantage in permitting recurrence through refilling of the sac.

The contributions of Monod and Vanverts<sup>1</sup> summarize in an excellent

\* Read before the Section on Surgery, General and Abdominal, at the Sixty-Fifth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1914.

<sup>1</sup> Monod and Vanverts: *Rev. de chir.*, 1910, 1911, xli-xliv.

Reporter.	Place Reported.	Age of Patient.	Duration.	Etiology.	Type.	Operation.	General Vascular Condition.	Result.
P. Penqueiz.	<i>Gaz. méd. de Picardie</i> , 1900, xviii, 21.	62	—	Spontaneous.	Saniform.	Excision.	Sclerosis.	Immediate cure.
Leuger.	<i>Bull. Acad. de méd. belge</i> , 1903, xvii, 1006.	27	4 years.	Traumatic.	Not given.	Excision.	Healthy.	Cure ; 3 years observation.
Bobbio.	<i>Gior. d. r. Accad. di Med. di Torino</i> , 1903, lxi, 545.	36	—	Spontaneous.	Not given.	Excision.	Not given.	Immediate cure.
Saigo.	<i>Deutsch. Ztschr. f. Chir.</i> , 1906, lxxxv, 577.	33	4 months.	Traumatic.	Not given.	Excision.	Not given.	Immediate cure.
Ochmann.	<i>Vratch</i> , 1908, p. 1350.	—	—	Traumatic.	Not given.	Excision.	Not given.	Immediate cure.
Viannay.	<i>Loire méd.</i> , 1909, xxviii.	21	6 months.	Traumatic.	Not given.	Excision.	Not given.	Immediate cure.
Houzel.	<i>Rev. de Chir.</i> , 1910, xlii, 431.	60	2 years.	Spontaneous.	Not given.	Excision.	Atheromatous.	Immediate cure.
Perkins.	<i>New Orleans Med. and Surg. Jour.</i> , 1909, lxi, 810.	40	4 months.	Traumatic.	Saniform.	Obliterative aneurys-morrhaphy.	Good.	Immediate cure.
Primrose.	<i>Canadian Med. Assn. Jour.</i> , July, 1913.	44	4 months+	Spontaneous.	Fusiform.	Obliterative aneurys-morrhaphy.	Marked sclerosis.	Cure ; death three mos., uremia.
McGlannan.	Present Report.	55	14 months.	Spontaneous.	Fusiform.	Obliterative aneurys-morrhaphy.	Sclerosis.	Cure, senile gangrene six months.
McGlannan.	Present Report.	45	1 year.	Traumatic.	Fusiform.	Excision.	Healthy.	Immediate cure, with edema of foot and leg.



manner the general results of the various forms of treating aneurysms. Since their publication the best articles relating to the subject have been detailed reports of operations on particular vessels, for example, Halsted<sup>2</sup> on the common iliac artery, and Elliott<sup>3</sup> on the subclavian artery.

Reports of aneurysm of the posterior tibial artery are rare. I have found only nine cases in the literature since 1894, and there are no specimens of this aneurysm mentioned in Lamb's<sup>4</sup> catalog with reference to the Army Museum. For this reason I am reporting the two cases that were admitted to my service at the Mercy Hospital, Baltimore, during the summer of 1913. In the first case I performed the operation of obliterative aneurysmorrhaphy, while in the second, my associate, Dr. E. H. Hutchins, excised the aneurysm. The similarity of position and general character of the aneurysms gave an excellent opportunity for comparing the results in the two forms of treatment.

**CASE 1 (Surg. 81064).—**Aneurysm posterior tibial artery, upper portion, ruptured. Endo-aneurysmorrhaphy obliterative. Cure.

Colored man, aged 55, truck-driver. Referred by Dr. Stiefel, Baltimore. Duration of disease, fourteen months. Symptom of onset, pain in the leg increased by motion of knee. Ten days before admission sudden sharp pain occurred after violent flexion of the knee and patient noticed the development of a large swelling in the right calf.

On admission, he mass in the right leg extended from the lower portion of the popliteal space to about the middle of the calf. There was a prominent bulging just below the head of the fibula. The swelling was tense and firm, the skin shiny and the superficial veins distended. No pulsation could be felt in the artery at the malleolus, or in the dorsalis pedis. The foot was slightly edematous but was warm and the circulation in the toes seemed good. There was loss of plantar flexion in the great toe, but no disturbance of sensation. The general cardiovascular condition of the patient was poor. The heart was hypertrophied and the seat of double mitral murmurs, with a general arteriosclerosis. Blood-pressure 185. The urine contained albumin and granular casts. Wassermann reaction negative. Roentgen-ray examination negative.

**Operation.**—June 20 1913, the patient was given  $\frac{1}{4}$  grain of morphin hypodermically and placed on the table in the prone position. Iodin disinfection was used for the skin and a tourniquet applied in the upper third of the thigh. With novocain infiltration, an incision was made extending from the upper portion of the popliteal space down the middle line of the back of the leg to its lower third. The thinned-out gastrocnemius and soleus muscles were divided, the clots wred out of the wound and the ruptured aneurysmal sac exposed. The sac was fusiform, about 12 cm. long with a wound extending about 5 cm. in its upper portion. The dilatation began just below the point of divergence

<sup>2</sup> Halsted: Bull. Johns Hopkins Hosp., 1912, xxiii, 2.

<sup>3</sup> Elliott: nn. Surg., 1912, lvi, 83.

<sup>4</sup> Lamb: M. Surgeon, February, 1911.



of the peroneal artery. The nerve was pushed to the inner side and the tibialis posticus and flexor longus pollicis muscles were almost entirely destroyed by pressure. The rough edge of the tibia with several small exostoses was felt through a thin membrane in the depths of the wound, just anterior to the aneurysm.

The sac was opened throughout its length and the upper and lower openings of the artery sutured with fine silk from within. No other vessels opened into it. The sac was next obliterated by several layers of catgut sutures, the muscles united and the wound closed without drainage.

Convalescence was uneventful, except for a hematoma in the wound which required evacuation on the tenth day. The circulation in the foot was always good and the edema disappeared at once. There were no symptoms of nerve disturbance, but there was loss of power in plantar flexion of the great toe, easily explained by the destruction of muscle observed at the operation.

In December, 1913, six months after the operation, this patient returned for treatment on account of numbness in the great toe. Dry gangrene soon developed and extended until all the toes were involved. These were removed one at a time as the line of demarcation appeared, but later the process extended, especially over the dorsum of the foot. At the present time this patient has a granulating stump, the lower ends of all the metatarsals having been removed. The granulations are healthy, the circulation is good and it is likely that no further extension will occur.

On account of the general arteriosclerosis, I feel that this gangrene, coming on six months after the operation, cannot be charged against the value of the procedure, nor considered a sequel of the aneurysm, but should be looked on as a natural development of his previously existing arterial disease.

CASE 2 (Surg. 85019).—Aneurysm posterior tibial artery, upper portion, ruptured. Excision. Cure.

Colored man, aged 45, stevedore. Referred by Dr. G. F. Chambers, Lusby, Md. Duration one year. Symptom of onset, pain and swelling after a slight injury, followed later by visible and palpable pulsation of the swelling. A short time previous to admission the patient noticed rapid increase of the swelling and a disappearance of the pulsations. The leg became heavy and painful and interfered with walking.

On admission the leg was so greatly swollen from 4 inches above the knee to the tip of the toes that all anatomic landmarks were obliterated. The skin was shiny and stretched over the firm swelling. No pulsation was felt in the tumor or in the region of the arteries at the ankle. No disturbance of sensation over the foot and leg.

The general condition of the patient was good. No arteriosclerosis, or disease of the heart or kidneys. Roentgen-ray examination negative. Wassermann reaction negative.

*Operation.*—Aug. 26, 1913. Ether anesthesia. Iodin disinfection. Tourniquet placed about middle of thigh. A long incision made over the swelling in the midline of posterior portion of the leg. Calf-muscles divided opening into a cavity, extending from knee to ankle, filled with blood-clot. After the clot was cleaned out, the fusiform aneurysm was exposed, situate at the upper portion of the posterior artery. The sac had ruptured, and the extravasated blood hollowed out an immense cavity in the leg-muscles, across which the

vessel extended like a stretched cable. The aneurysm was excised and after ligation of several vessels the wound closed with drainage.

The convalescence was uneventful, the wound healing without any complications. Edema of the foot and leg was marked and persistent. Eight weeks after the operation, in spite of rest with elevation of the limb, and bandaging, the circumference of the calf of the injured side was 6 cm. and of the foot 5 cm. greater than that of its fellow.

This edema very slowly diminished and finally disappeared. A late report from the patient states that he is able to do his work as before the injury.

These two cases offer an excellent opportunity for comparison between the relative advantages of endo-aneurysmorrhaphy and of excision, in the treatment of aneurysms of the peripheral vessels.

1. *Ease of Execution.*—The intersaccular suture was done rapidly and comfortably without any disturbance to the surrounding tissues. The ease with which the veins and nerves were avoided was noticeable. The excision, on the other hand, required greater dexterity and much more disturbance of the veins in the control of hemorrhage. Regarded from the point of view of the operator, the Matas operation is, therefore, preferable, because of its easier performance.

2. *The Immediate Result of the Operation.*—The edema of the leg and foot following excision and its entire absence after the Matas operation is the most striking feature of the immediate result in these cases. The persistent edema interfered to a marked degree with the function of the limb, and gave the patient a good deal of discomfort.

The cause of the edema is not easily explained. It is possible that the preservation of the vessel in the Matas operation also preserves an important portion of the route of lymphatic return from the foot and in this way prevents the development of edema.

3. *The Ultimate Result.*—I have already given my reasons for concluding that the gangrene of the foot, occurring in the first patient, was not attributable to the aneurysm or its treatment. Disregarding this factor then, the end-result in both cases is the same. The aneurysm is cured without sacrifice of the leg or its function. Therefore, in the ease of execution and in the greater immediate comfort of the patient lie the advantages of endo-aneurysmorrhaphy.

## A REPORT OF THE TREATMENT OF CEREBROSPINAL SYPHILIS BY INTRASPINOUS INJECTIONS OF SALVARSANIZED SERUM.<sup>1</sup>

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Since the discovery of the Wassermann reaction and the luetin tests, scientific proof has been added to the clinical belief that such affections as tabes and general paresis are not parasyphilitic diseases but true luetic processes.

The discovery of the *Spirocheta pallida* in these diseases by Noguchi and others not only adds further proof, but establishes the fact that they are active syphilitic affections. One of the things that created the belief that these affections were parasyphilitic diseases was their lack of response, in most instances, to antisymphilitic treatment. The cause, we now know, is due to the peculiarity of the choroid plexus of the dura mater, being more or less impermeable to such drugs as mercury, potassium iodide, and salvarsan. We must admit, however, that occasionally clinical improvement follows the administration of salvarsan, mercury, and potassium iodide given in the usual manner, but improvement of the spinal fluid from the standpoint of the Wassermann reaction, cell count, globulin test, etc., is extremely rare, indicating that the improvement must be regarded only as temporary. When we further realize that even in the preëruptive stage of syphilis, while the blood still is negative to the Wassermann reaction, the spinal fluid may be positive, it is obvious that the proper method of handling these affections must be by direct applications to the nervous tissue itself. The difficulties that strew our path are not only technical but lie chiefly in the high susceptibility of the nervous tissue to foreign substances. However, that such a mode of attack is practicable has long been exemplified by intraspinoous injections of serum in meningitis and tetanus. We have, too, the experience of several observers that even medicinal substances may be injected into the spinal canal without untoward effects.

Fortified by this knowledge and experience, various investigators have tried to improve syphilis of the nervous system by intraspinoous injections

<sup>1</sup>Read before the 116th Annual Meeting of the Medical and Chirurgical Faculty of Maryland, April 29, 1914. Extracted from the *American Journal of the Medical Sciences*, February, 1915, No. 2, vol. cxlix, p. 247.



of the newer antisyphilitic compounds. Salvarsan on account of its irritating alkaline content was out of the question. Wechsellmann was the first to inject neosalvarsan in the spinal canal. Since that time Marinescu, Marie and Levaditi, Gennerich, and others have tried this treatment. Wechsellmann used aqueous solutions, and after the injections it was found that the patients had violent reactions, consisting of severe headaches, vomiting, marked neuralgic pains in the legs, elevation of temperature, micturitional difficulties, etc. These severe reactive symptoms indicate an irritant action on the spinal cord, and on this account the method has not met with general favor.

Swift and Ellis tried injections of neosalvarsan solutions, but on account of the irritating action of the drug on the spinal cord gave them up and adopted their method of injecting salvarsanized serum. This method has found many adherents and is the method we have followed in our present study with some slight modification. The method of procedure is as follows: The patient is given a full dose of salvarsan intravenously; at the end of one hour 100 cc. of blood are withdrawn. This blood is then sent to the laboratory. The next day the patient is prepared for the intraspinal injection of the salvarsanized serum by painting well the whole lumbar and sacral regions with tincture of iodine. The patient may be sitting or lying, but it is essential that the back be well bowed. A point one-eighth to one-quarter inch to the right of the median line between the third and fourth lumbar intervertebral space is selected, and the needle, which is an ordinary lumbar puncture needle, is directed upward, inward, and forward. The successful entrance is indicated by the escape of spinal fluid. If the fluid is under great pressure an amount sufficient to reduce it is allowed to flow out, otherwise the same quantity of fluid is withdrawn, as we have serum to inject (usually 15 to 30 cc.). The injections are made by us with a syringe. Some use gravity, others combine both. The fluid is then sent to the laboratory for study. The patient is now sent to the ward and the foot of the bed elevated for two hours. He remains in bed until the temperature and pulse are normal. Some of the patients develop no reaction whatever, and they are allowed to go home the next morning. Others develop a meningismus, characterized by fever, increased pulse rate, nausea, vomiting, severe headaches, and shooting pains in the lower extremities. These symptoms are never alarming, and they pass off within twenty-four to forty-eight hours.



Some of the patients feel comfortable so long as they are recumbent, but on standing develop a headache which may be quite severe. This condition lasts several days and then gradually subsides. We have not observed any unfavorable complications or sequelæ.

To date we have given twenty-nine intraspinal injections to 18 patients; 11 patients received one injection each; 4 received two injections each; 2 received three injections; and 1 received four injections. It is our plan, patients consenting, to repeat the injections every two or three weeks, irrespective of the clinical improvement, until the Wassermann reaction becomes negative in all dilutions, the cell count becomes normal, and there is negative globulin test. While some of our patients have shown a decided clinical progress, suggesting a cessation of treatment, the more accurate laboratory check has revealed the necessity of further injections.

At this point, the citation of a few cases from a clinical standpoint may be interesting.

B. F. C. entered hospital suffering with nausea, vomiting, and markedly defective mentality. Neurological examination, Wassermann test of the spinal fluid, etc., established the diagnosis of cerebrospinal lues. The Wassermann test of the blood was negative. Mercury and potassium iodide treatment ineffective. Twenty-four hours after the first intraspinal injection of salvarsanized serum his nausea and vomiting had disappeared and he became perfectly rational. Two weeks later he began again with nausea and vomiting, which was promptly relieved by the second intraspinal injection. He returned to his home in West Virginia feeling perfectly well. Patient returned to us February 9, 1914, feeling fine, having gained considerably in weight and being perfectly rational. He was then given another intraspinal injection.

J. H. A. Complaint: Sharp pains in abdomen. At age of twenty-eight years, he had a chancre, followed by secondaries. He took mercury and potassium iodide for one year and was pronounced cured. Well until three years ago, when he began to notice weakness in limbs after walking up and down stairs.

*Present Condition:* Two years ago began to have sharp, intermittent pains in abdomen and difficulty in walking, until at the time of admission he was unable to walk at all. Examination led to the diagnosis of tabes.

March 10, 1914. Intraspinal injection of 13 cc. concentrated salvarsanized serum.

March 11. Patient had no more pains. Left the hospital March 14, 1914.

March 30. Again entered hospital. Given 0.6 gm. salvarsan intravenously, but on account of severe chill, lasting several hours, blood for intraspinal injection was not obtainable.

Again entered hospital April 7, 1914. Patient has no more pains; notices a steady improvement in his legs; 17 cc. concentrated salvarsanized serum injected intraspinaly. Patient, with slight support, walked from the bedroom to operating-room.

April 27. Patient feels fine. No pains; walks with perfect ease, but still notices a slight weakness which improves daily. Has resumed his occupation.

CASE XI.—W. C. T. Complaint: Violent headaches. Initial lesion October 1, 1913, followed by secondaries. Received four injections of salvarsan, and his symptoms promptly disappeared. Felt well until five weeks following last injection of salvarsan, when he began to have severe frontal headaches. Eye examination negative. Patient received another injection of salvarsan intravenously, which helped headaches for a few days, when they returned with increased severity. Hypodermic injections of biniodid in oil and large doses of potassium iodide proved unavailing.

March 7, 1914. Lumbar puncture made for diagnostic purposes. Fluid under pressure; Wassermann reaction of fluid triple plus; high cell count and positive globulin.

March 11, 1914. Headaches violent as ever, some nausea and vomiting, loss of weight and insomnia. Today 25 cc. concentrated salvarsanized serum injected intraspinaly. Forty-eight hours later, headaches had disappeared and have remained absent ever since. Patient's general condition has also shown marked improvement. Received another injection April 2, and another April 17.

CASE VIII.—J. F. B. Initial lesion, 1894; left hemiplegia, 1911. Has received three injections of salvarsan intravenously. Symptoms complained of at time of treatment were scraping of right toe on floor and hemiplegia of right arm. Has received three intraspinal treatments. Now has good use of right arm and scraping of toe practically disappeared.

From a clinical review of our cases we have observed improvement, marked in some, slight in others, in practically every case, excepting one case of tabes in a patient who has been blind and paralyzed for many years, in whom the treatment was given chiefly to satisfy the patient. We do not doubt that some of these patients may have been benefited by the older methods of treatment, but of this we are certain, that (1) the percentage of improvements would not have been as large, and (2) would not have been in most cases as prompt.

Though in certain respects the laboratory findings did not substantiate the clinical diagnosis of the cases included in this series, they in some cases established a definite diagnosis, often confirmed it, and in the latter event afforded evidence as to the efficiency of the treatment, either temporary or permanent, in the following directions:

1. As regards the globulin content of the cerebrospinal fluid.
2. As to the white blood cell count of the spinal fluid.
3. As to the Wassermann reaction of the blood.
4. As to the Wassermann reaction of the cerebrospinal fluid.

It is a source of great regret that this series did not include the colloidal gold test of Lange, but our work was already well advanced when the advisability of including this test was first seriously considered.

As regards the preparation of the salvarsanized serum the following procedure was employed :

The salvarsanized blood collected directly into centrifuge tubes of 50 cc. capacity was kept at refrigerator temperature until the morning after collection (usually about sixteen to eighteen hours), when the clot was freed from the sides of the tube and the specimen centrifugalized until the serum was entirely free from cellular elements. Such cell-free serum was then transferred aseptically to other tubes. Except in the first few injections, when the sera were diluted to a 40 per cent mixture with 0.9 per cent sodium chloride solution, according to the method advocated by Ellis and Swift<sup>2</sup> we followed the plan employed by Boggs<sup>3</sup> of using undiluted serum. This has the advantage of decreasing the amount of fluid injected into the subdural space. We never experienced any ill effects attributable to this procedure, but rather feel that it is more efficacious and at the same time minimizes cord pressure symptoms. It was only by this means that we were enabled to institute the plan, which has been our recent custom, of giving the comparatively speaking huge doses of salvarsanized serum in the hope of securing a more intensive form of treatment than employed by others. The serum so prepared was inactivated in a water bath at 56 ° C. for thirty minutes, and when brought to body temperature was ready for administration.

Regarding the laboratory work carried on the following methods were employed: 1. In reference to the globulin content. For the sake of conformity to the method employed by others we used the Noguchi butyric acid test for globulin,<sup>4</sup> rather than at least more agreeable methods. Only such fluids as were entirely free from red corpuscles were utilized in this connection. A clear fluid without white precipitate either as sediment or in suspension was negative (—). An opacity of the entire specimen without any definite white precipitate either as sediment or in suspension was doubtful ( $\pm$ ,  $\mp$ , or  $+$ ). An opacity of the entire specimen with a definite white flocculent precipitate in suspension was definite ( $++$ ). An opacity of the entire specimen with a coarse white flocculent precipitate as sediment and in suspension indicated a great increase ( $+++$ ). The rapidity of development of the precipitate also influenced

<sup>2</sup> New York Med. Jour., 1912, xevi, 53.

<sup>3</sup> Personal communication.

<sup>4</sup> For method see Noguchi, H., *The Serum Diagnosis of Syphilis*, first edition, page 118 to 119, Philadelphia, 1910.



the intensity of the reaction, the most marked degree (++++) appearing immediately upon the addition of the alkali.

Globulin, though present in traces in all spinal fluid, is not detectable in normal amounts by the Noguchi method. Though increases occur occasionally in conditions other than central nervous syphilis which now definitely includes general paresis and tabes, its presence in increased quantities is usually associated with such involvement, the intensity of the reaction running roughly *pari passu* with the activity of the process.

2. With reference to the cell count. This estimate was made with a pipette and counting chamber in a manner comparable to that employed in counting the leukocytes of the blood, modified to suit the altered conditions encountered in the spinal fluid.

A cell count of more than eight white cells per cubic millimeter of undiluted spinal fluid was considered abnormal. Roughly corresponding to the activity and severity of a luetic involvement of the central nervous system this number is materially increased, the increase affecting the lymphocytic cell particularly, and the number varying from anywhere above eight to several hundred.

3. With reference to the Wassermann reaction of the blood. This reaction was performed substantially according to the technique which one of us has already described.<sup>5</sup> The exception is that in the majority of cases considered here we used two antigens, one Noguchi<sup>6</sup> antigen and the other a standard cholesterinized antigen.

The relative merits of these two antigens will be discussed by one of us<sup>7</sup> elsewhere.

Reaction of — and  $\pm$  we consider diagnostically against lues (exclusive of cases involving the central nervous system when not infrequently the blood is negative and the spinal fluid if examined is found positive). Those cases designated as  $\mp$  and + we consider as having an inconclusive reaction unless there is a revision downward from a positive reaction under the influence of treatment. Finally ++ and +++ are positive reactions and are diagnostic of lues.

4. With reference to the cerebrospinal fluid. The technique of the

<sup>5</sup> Judd, Charles C. W., Maryland Med. Jour., September, 1913, p. 220.

<sup>6</sup> Method of preparation was essentially the same as that described by Kolmer and others. Arch. Int. Med., 1913, xii, 665, for Noguchi Antigen, and Sacks, H., Berlin klin. Woch., 1911, p. 2066, for the cholesterinized antigen.

<sup>7</sup> Judd, Charles C. W., Jour. Amer. Med. Assoc., July 25, 1914, lxiix.



Wassermann was essentially the same as in the case of the blood, save that not possessing compliment it was not inactivated and, when feasible, smaller and greater concentrations of the fluid were utilized for each test. Selections as seemed most appropriate in the individual cases are made from the following: Undiluted fluid, diluted one in two parts, two in five, one in three, one in five, one in eight, and one in ten. By so doing small degrees of variation in fixative property were detected. In this connection we wish to emphasize the importance of as complete a titration of the spinal fluid as possible, as evidence of the actual influence of the treatment may thus be obtained which in our estimation is at least as important as the lowered cell count and diminished intensity of the Noguchi reaction which has been so heralded by others.

Certain of our cases, which presented clinical evidence of involvement of the central nervous system, in a known luetic, emphasize the probability that such disturbances are not necessarily due to organic implication of brain or cord in the luetic process, since the examination of the cerebrospinal fluid furnished altogether negative results while the blood Wassermann was positive. More probably this was due to some complicating condition, *e. g.*, arteriosclerosis. Our experience, however, is in accord with the suggestion of Bernstein,<sup>8</sup> to this extent at least, that in luetic patients presenting symptoms referable to the central nervous system, despite negative laboratory findings, an intraspinal injection of salvarsanized serum has done no harm and may be of incalculable prophylactic benefit.

Whether as a direct result of this treatment or not the laboratory findings in all of the cases included in this series which we have been enabled to follow have shown unequivocal improvement save in the question of the blood Wassermann. In the improvement there has been no particular uniformity with reference to any special one of these reactions. In no case, though as many as four injections have been administered, has there been a return from pathological conditions to absolute normality of the spinal fluid and blood in all phases of its examination, though in some of the cases there has been a restitution of the cerebrospinal fluid to normal in some respects. At best in well-established cases long courses of treatment seem inevitable. Despite this the initial results are so far encouraging as to stimulate us to carry this treatment of these therapeutically

<sup>8</sup> Amer. Med. Assoc., 1914, lxii.

discouraging cases to the limit in the hope of restoring not only the clinical condition of the patient but also both blood and spinal fluid to a normal condition in respect to all of these methods of examination.

#### CONCLUSIONS.

1. Intraspinal injection of salvarsanized serum, with proper precautions, is a safe treatment.

2. The results obtained indicate its superiority over the older known methods.

3. Treatment must be persisted in until the laboratory findings are negative irrespective of the clinical progress observed.

4. Such clinical and laboratory improvements as have been observed by us have still to go further. The permanency of the improvement still has to be determined.

We wish to express our appreciation to Dr. Charles E. Simon for placing at our disposal the Wassermann reports of several of the cases herein included.

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#### TRICHIASIS.

By T. RICHARD PAGANELLI, M. D., HOBOKEN, N. J.

*Clinical Assistant to the New York Eye and Ear Infirmary, and Assistant Ophthalmic Surgeon to the Italian Hospital, New York City.*

*Mr. President and Members of the Hudson County Medical Society:*  
I had intended to present the subject under consideration more minutely, but owing to the fact that on this evening there will be an election of new officers I have prepared the subject under consideration briefly, so that I might not occupy more than ten minutes.

I will only consider the most up-to-date treatment and will make no mention of epilation electrolysis, illaqueation, Snellen's, Hartz's, Harlan's or Ewing's operations, but will confine myself to Briganti's modification of Scimemi's margino-plastic operation or the Italian Operation, as it is sometimes called.

In discussing trichiasis I will also make mention of distichiasis and entropion as these diseases are often found associated and coëxisting.

#### TRICHIASIS.

By trichiasis is meant a condition where the direction of the true cilia are changed from the normal to a position directing the hair downward and inward on the eyeball. The conjunctiva in the regressive stage of

trachoma undergoes cicatricial shrinking and contracts, thus tending to draw the cilia more and more in a false direction.

It must not be forgotten, however, that the distortion and change of direction on account of cicatricial contraction of the fibres of the *Musculus Ciliaris Reolani* is directly responsible for the production of the false direction of the cilia.

#### DISTICHIASIS.

Distichiasis indicates a growth of new lashes in addition to the lashes already in existence. The true cause for the growth of these new lashes, according to Raehlmann, is due to the fact that the false cilia are developed as buds or offshoots of the follicles of the true cilia and primarily from the cuticle of the free margin of the lid.

His view is that a hyperæmia of the margin and an inflammation of the proliferative type are the causative factors of the development of the new hair.

#### ENTROPION.

Entropion is a rolling inward of the lid; the distinction between trichiasis and entropion is one of degree. The lid margin is inverted on account of cicatricial contraction and distortion of the tarsal cartilage. The evil consequence of entropion is much the same as trichiasis.

*Etiology.*—Trachoma, chronic blepharitis, hordeolum, diphtheria, burns and operations are the chief causes. The most frequent cause, however, is trachoma.

*Symptoms, Signs and After-Effect on the Eyeball.*—The rubbing of the lashes against the cornea produces a feeling as if there was a foreign body in the eye. Pain, lachrymation, blepharospasm and ulceration in consequence of the constant irritation occurs. Later on these opacities undergo a sort of callous thickening and in this way the cornea is protected from external injury by fresh rubbing.

In order to better understand Briganti's operation it will not be out of place for me to briefly describe Scimemi's operation.

The original Scimemi's margino-plastic operation consists of an incision of the margin of the lid as long as the trichiasis requires, sufficiently deep to permit the insertion of a skin flap from the outer surface and a few millimeters distant from the border. After the flap is dissected it is inserted into the marginal wound. Two vertical cuts, one on each end, through the thickness of the ciliary border, are required in order to insure an easy resting place for the flap.

Sgrosso modified this operation by abolishing the vertical cuts and shifting the flap by rolling it over the lashes. The flap was left attached to the skin for a few days to insure nutrition of the graft; until it was securely attached, then it was cut at either end and the operation was complete. It appears to me that the flap might perish by removal of the vertical cuts and by bridging it over the lashes, as there is a good deal of tension and pressure on either end that might cause a necrosis of the flap before it could attach.

#### BRIGANTI'S TRANSPLANTATION METHOD.

In order to overcome the difficulty above mentioned, and in order to avoid the use of the Jäger horn plate lid holder Dr. Briganti of New York has modified and simplified the operation by constructing two new instruments, which could control the hemorrhage and at the same time insure a firm hold on the lid, no matter how deformed the lid may be. It will be remembered that the hemorrhage was controlled by finger pressure and the holding of the lid in proper position was quite a difficulty in the old operation.

#### THE MARGINAL FORCEPS.

The marginal forceps are made right and left as is required. These forceps are intended for the marginal incision. They are like a fixation forceps up to the elbow, at which point they form an angle of about 125 degrees with the attached portion of the angular pieces. These are about twenty millimeters long and are curved slightly from side to side, so as to adapt themselves to the curvature of the lid from one canthus to the other. The inner surfaces of the angular pieces are corrugated so as to insure a firm hold on the lid. The one corrugated on the convex border should be inserted under the lid, so as to come in contact with the tarsal conjunctiva, while the other presses on the outer side of the lid. The angular pieces should be placed about four millimeters from and parallel to the margin. When so applied it is fixed and rotated upward, about twenty-five or thirty degrees, so as to bring the margin in position to the best advantage of the surgeon. An incision three millimeters deep is made between two imaginary lines, one corresponding to the lashes, the other to the excretory ducts of the Meibomian glands.

When the patient has been subjected to epilation the surgeon should wait until the faulty lashes have grown, so that he can bring these lashes



outward by including them anterior to the incision. No trouble has arisen even when the incision fell on the line of the Meibomian glands. This is a common occurrence in cases where trichiasis is accompanied by pronounced entropion and atrophy of the margin of the lid. Secretion of the Meibomian glands is supposed to interfere with the attachment of the flap. However, a slight curettement of the part will remove this obstruction.

#### THE FLAP FORCEPS.

Having completed the marginal incision in its details, the flap is cut with the flap forceps, which are forceps carrying on one branch an oblong ovoidal plate, which is curved from side to side so as to adapt itself to the curvature of the lids. The other branch terminates in a narrow piece about twenty-five millimeters long and a little more than one millimeter wide, attached at its middle. It is shaped so as to follow the outline of the margin, and curved from side to side to adapt itself to the curvature of the lid. The lid surfaces are serrated so as to hold the lid firmly.

The plate is placed beneath the surface of the lid. The narrow transverse piece is placed about three millimeters from the margin and the screw arrangement tightened. The surgeon now makes an incision on the integument covering the lid along the margin of the narrow piece, acting as a guide. Careful attention should be paid that the resulting skin flap is attached at the extremities.

The instrument is now removed and the lower incision is completed at its middle. The flap is now carefully dissected and deprived of as much as possible of the superfluous subcutaneous connective tissue. The marginal incision is now refreshed so as to bleed, and the flap placed in position. Two vertical incisions of about five millimeters long, one on either end, are made, so that the flap is made to settle with less tension at the extremities.

It will be noticed that when the flap is placed in position the ciliary border is rotated outward as far as the thickness of the flap permits, thus removing the lashes from the eyeball. The skin wound is now sutured by a continuous or interrupted suture, as the surgeon desires, and an anti-septic vaseline dressing is applied.

I have assisted in fourteen private cases in the last three years and have seen four operated on at the New York Eye and Ear Infirmary and two at the Italian Hospital of New York City. Of the cases that I could keep in touch with the results were very satisfactory.

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THE JOURNAL  
OF THE ALUMNI ASSOCIATION  
OF THE  
COLLEGE OF PHYSICIANS AND SURGEONS,  
BALTIMORE.

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COMMENCEMENT ANNOUNCEMENTS.

The annual banquet of the Alumni Association will be held Monday evening, May 31. Members who wish to attend should notify Dr. H. K. Fleckenstine, 700 North Howard street.

The commencement exercises for the graduating class of 1915 will be held Tuesday, June 1. About sixty men will receive their diplomas.

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After serving for over ten years as the secretary of the Medical and Chirurgical Faculty of Maryland, Dr. John Ruhräh has refused re-election to that office and has been made chairman of the library committee.

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PROFESSOR SIMON HONORED BY THE UNIVERSITY OF  
PENNSYLVANIA.

The following is an extract from the special dental dedication number of *Old Penn Weekly Review*, of the University of Pennsylvania. It explains itself:

WILLIAM SIMON, M. D.

Provost Smith said:

"William Simon—revered teacher and brilliant experimenter in chemical science, which has contributed more than all other sciences combined to the happiness and welfare of mankind.

"Past master in the art of chemical analysis, whose books on this subject have appeared in many editions.

"A leader in pharmaceutical studies."

William Simon, M. D., who received the degree of Doctor of Science, was born in Eberstadt, Hessen, Germany, on February 20, 1844. He was educated at Giessen from 1852 to 1860, when he became engaged in the drug business for six years. In 1869 the University of Giessen conferred upon him the degree of Ph. D. In 1880 the College of Physicians and Surgeons of Baltimore conferred upon him the honorary degree of M. D. He was assistant to Professor H. Will from 1869 to 1870. After serving in the Franco-Prussian War he came to the United States, opening the first chemical laboratory for instruction at Baltimore in 1871. From 1870 to 1877 he was chemist of the Baltimore Chrome Works. From 1872 to 1902 he was Professor of Chemistry in the Maryland College of Pharmacy and Professor of Chemistry at the College of Physicians and Surgeons of Baltimore since 1880, and in the Baltimore College of Dental Surgery since 1888. He was president of the Maryland Pharmaceutical Association in 1887-8. He is associated with many chemical and pharmaceutical societies. Among his works are the "Manual of Chemistry," published in 1884, which has recently gone into its tenth edition. He is also a frequent contributor to pharmaceutical and chemical journals.

ADDRESS OF WILLIAM SIMON, OF THE BALTIMORE COLLEGE OF DENTAL SURGERY.

*Mr. Provost, Ladies and Gentlemen:* To me has been assigned the task of speaking briefly on the subject of "The birth of dentistry as a profession." It would not be justifiable to discuss similarly the birth of medicine or of any other profession because they were not born; they were the result of an evolution extending over periods of centuries.

It is entirely different with dentistry, as this branch of human knowledge and human activity came into life as a profession quite suddenly. The year 1840 must be designated as the one in which the child was born. As late as 1838 an English dictionary (Tail's Mag. V. 197), defines dentistry as a calling growing into a profession, which clearly shows that at that time dentistry was as yet not looked upon as a profession actually in existence, but as one yet in an embryonic state.

Of course more or less successful attempts to relieve suffering humanity from the tortures of diseased teeth were made not only for hundreds but for thousands of years past. It was most likely old Egypt to which we should look as the cradle of dentistry as a distinctive branch of the healing art. But even during the century preceding the arrival of the profession of dentistry the care-taking of diseased teeth was largely in the hands of ignorant, uneducated and unscrupulous persons.

Yet during this period we find men who, through their superior skill, their painstaking care, and intelligent interpretation of existing conditions, stood far above the average dental manipulator of those days. Some of them had laid the foundation for their dental knowledge under the tutorship of other practitioners, while most of them were self taught, there being neither schools nor much readily accessible literature to assist anyone desiring to take up the work of the dentist.

Although the study of the disease of teeth should have formed part of a physician's education, the medical schools gave practically no instruction pertaining to this subject. Indeed, the medical practitioners of those days looked rather contemptuously upon those who performed any kind of dental operations.



These sad conditions were fully understood by those few prominent men who recognized that much good might be accomplished by proper dissemination of dental knowledge through the three principal channels open to us, viz.: (1) Through personal contact of the parties engaged in the common field of labor, *i. e.*, through exchange of thought and experience in association meetings; (2) through literature, especially when in the form of periodical journals; (3) through proper theoretical and practical instruction given at well-appointed institutions.

The thought that these means should be employed no doubt had been in the minds of many, but it lacked the leadership of some powerful mind to gather the scattered forces, inspire them with enthusiasm and set in motion the machinery through which the desired result might be obtained.

Fortunately the right man, or more correctly speaking, the two right men appeared just at the right time to lay the foundation for the cornerstone upon which the profession of dentistry could be erected as a new, but great and powerful factor, in the well being of humanity.

The men who became the leading spirits in this noble cause were Horace H. Hayden and Chapin A. Harris. To these men the dental profession as well as the people of the whole civilized world owe everlasting gratitude. They stand out prominently and conspicuously as intelligent, energetic, far-sighted, and unselfish men, willing and ready to give freely to others their knowledge and experience, and to do so cheerfully even at a personal sacrifice.

Though Hayden was a native of Connecticut, while Harris was born in the State of New York, these two remarkable men came together during the early part of the last century in Baltimore where both had located as dental surgeons.

The thought of bringing together the better class of dental practitioners by forming a national dental association had been in Hayden's mind long before this society became a reality. However, it was not until August 18, 1840, that a number of prominent dentists assembled in New York City and founded the "American Society of Dental Surgeons," of which Hayden was chosen first president, continuing in that office until his death.

The second step in the formation of a dental profession was taken almost simultaneously with the first one. It was the founding of a journal having for its object the advancement of dental surgery as a science and as a profession.

An association was formed in New York for publishing this journal which was named "American Journal of Dental Science" and appeared in monthly issues. While the name of Dr. Hayden does not appear in the first number of the journal, it is generally recognized that it was his master mind that had pushed matters to a successful realization of one of his cherished dreams. Dr. Harris was a frequent contributor to the columns of the journal in the first year, became chief editor in the second year and the exclusive owner of it in the year 1850.

A profession cannot live, grow and develop unless its ranks are constantly strengthened by the infusion of new blood, *i. e.*, through the addition of new members who have been well trained to carry on the work. In other words, there must be some school through which the existing and constantly growing knowledge pertaining to the respective profession may be imparted to others.

Both men, Hayden and Harris, fully realized the importance, the absolute



necessity of dental education. Strong efforts were made by them to induce the University of Maryland to found a dental chair and thus add dental instruction to the medical course. These efforts were in vain. In a letter from the University to Dr. Harris the writer says that the unfavorable action of the faculty was justified by "the subject of dentistry being of small consequence!" How little did most medical men of that time understand the intimate relationship between the function of healthy teeth and the well being of the human organism!

Personally, I have always looked upon the refusal of the University of Maryland as a rather fortunate incident. As an appendix to medical education dentistry, for probably a long period, would not have derived the benefits which came to it by founding the separate college as a branch of medicine, but upon an autonomous basis.

As an independent dental school now having been decided upon, on the first day of February, 1840, the Legislature of Maryland passed an act incorporating the new institution under the name of "Baltimore College of Dental Surgery."

The incorporators were besides Hayden and Harris, two physicians who had been selected to act as professors of the more strictly medical branches.

In the charter we find in print for the first time the degree of "Doctor of Dental Surgery," which, after many discussions between the founders, had been decided upon and which title since that time has been conferred by the first school and by other colleges which quickly followed, upon thousands and thousands of worthy men who through their labors have benefited the human race in all parts of the world.

From the day of its birth the institution was a complete success. For three-quarters of a century this, the oldest dental school in the world, has carried out faithfully the plans of dental education as conceived by its founders.

I realize, Mr. Provost, the honor you have bestowed upon me this day in inviting me to act as spokesman for this institution, from which I am also the bearer of good wishes and of hearty congratulations on this momentous occasion of the opening of the Evans Dental Institute. Seventy-five years ago the foundation stones for the profession of dentistry were laid and in the course of those years a powerful organization has been built up. To-day a mighty tower of strength has been added to the edifice in the institution which begins life this day.

May the searchlights of this tower penetrate to unknown fields of labor; may they reveal new facts, new conditions, new methods which may serve to shed additional luster on the art, on the science and on the profession of dentistry and bring new blessings to humanity.

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## Marriages.

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DR. T. FREDERICK LEITZ was married to Miss Beatrice Fannie Bernheimer on Wednesday, April 7, 1915. They are now at home at No. 2040 Eutaw Place.

## Obituary.

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DR. JAMES H. GLASS, '84, died at his home in Paso Robles, Cal., January 8, aged 57.

DR. CORNELIUS F. YEAGER, '84, died at his home in Mineral Wells, Tex., January 19, aged 67.

DR. HENRY W. McLAUGHLIN, '85, died at his home in Marietta, Ohio, January 20, from locomotor ataxia, aged 54.

DR. JOHN J. CHAMBERS, '84, formerly of Portland, Ore., but for fourteen years a practitioner of Nome, Alaska; died in the Morningside Sanitarium, Portland, Ore., December 5, aged 55.

DR. HARRY PAUL CHAMBERS, '91, a Fellow of the American Medical Association; surgeon to the Commonwealth Iron Company, Florence Iron Company, and Reserve Mining Company, Florence, Wis.; died at his home in Florence, February 9, aged 47.

DR. PERRY O. GUISE, '82, for many years a member and clerk of the Board of Education of Findlay, Ohio; for two terms treasurer of Findlay and four years township clerk; died in the Home and Hospital, Findlay, February 9, from arteriosclerosis, aged 62.

DR. WALTER LINTON BROWN, '13, a veteran of the Spanish-American War with service as a member of the Hospital Corps in the Philippine Islands for eight years; superintendent of a hospital in Richwood, W. Va., since June, 1914; died in Mercy Hospital, Baltimore, February 23, from heart disease, aged 41.

DR. CHARLES WILLIAM CHANCELLOR, Jefferson Medical College, '53; during the Civil War medical director of General Pickett's Brigade in the Confederate service; after the close of the war professor of surgery and dean of the Medical School of Washington University, Baltimore; consul to Havre, France, during the Cleveland administration; school commissioner of Baltimore; for several terms alderman of the city, and in 1877 president of the common council; a member of the board of managers of the Maryland State Hospital for the Insane, and president of the Maryland State Lunacy Commission in 1880; secretary and executive officer of the Maryland State Board of Health in 1885; for the last fourteen years a resident of Washington, D. C.; died at his home in that city, January 3, aged 84.

The following poem, published in the December number of the *Alumni Journal of the Mercy Hospital Nurses*, is so full of humor that we are taking the liberty of reprinting it for the benefit of the alumni of the College.

### THE FINISHED NURSE.

(With apologies to Kipling.)

If you can keep your bed when those about you  
Are losing theirs and moving in on you;  
If you can trust yourself when doctors doubt you,  
And keep within your proper limits, too;  
If you can make a heap of laundry linen  
And have it ready early Monday morn,  
And lose it, start anew with smiles most winnin'  
And not regret the day that you were born;  
If you can give a bath in fifteen minutes,  
And dress a wound, nor lose the sterile touch,  
If you can keep on good terms with your roommate;  
If all men count with you, but none too much;  
If you can learn the art of good suggestion,  
And practice it and not talk nurses' shop;  
If you can answer any doctor's question,  
And decrease digitalis drop by drop,  
And keep a chart without a single error,  
And know by heart the ladies of the Board;  
If you can come to classroom without terror  
And not forget the meaning of a word;  
If you can rise at dawn, report at seven  
And do a hard day's work till 8 p. m.  
And then give up your time to make things even,  
And keep your apron spotless to the hem;  
Sponge, miss your supper, and admit a patient,  
Report at roll-call, and get off at eight,  
Attend a lecture and be put on special,  
And then get "sat on" for a weary gait;  
If you have in your heart the hope of winning  
Only the good, and not deceitful fame,  
If you can see life ending and beginning,  
And treat these two imposters just the same;  
If you can live on five or six odd dollars,  
And dress as well as with a fuller purse,  
You've done the stunt and everything that's in it,  
And then, my dear, you are a finished nurse.

E. G. S.

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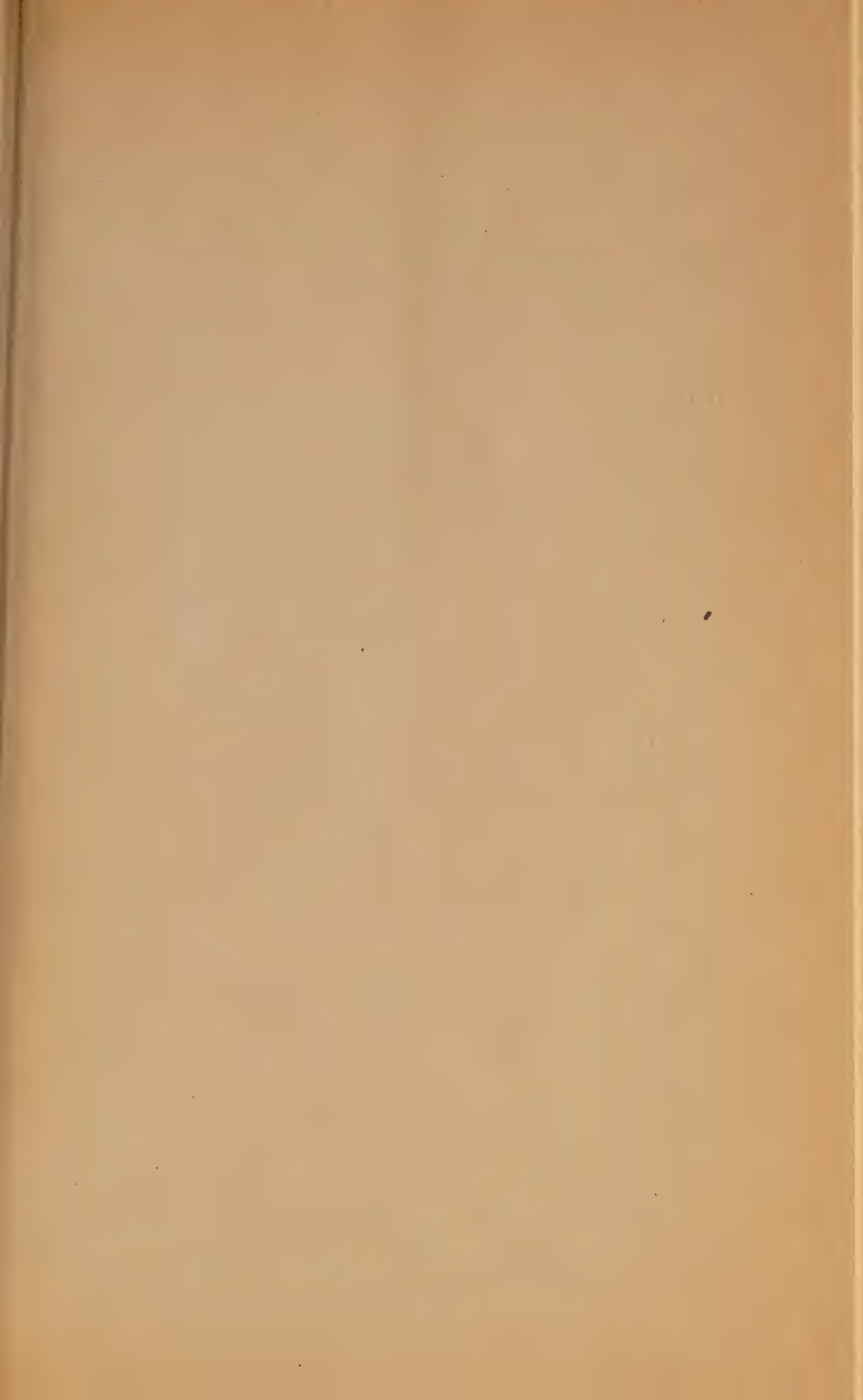
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## JOURNALS ON FILE IN THE LIBRARY.

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1. American Journal of Anatomy.
2. American Journal of Biological Chemistry.
3. American Journal of Diseases of Children.
4. American Journal of Insanity.
5. American Journal of Medical Sciences.
6. American Journal of Physiology.
7. American Journal of Obstetrics.
8. American Medicine.
9. American Chemical Journal.
10. Annals of Otology, Rhynology and Laryngology.
11. Annals of Surgery.
12. Archives of Internal Medicine.
13. Brain.
14. Johns Hopkins Hospital Bulletin.
15. Medical and Chirurgical Faculty of Maryland.
16. Chemischen Berichte.
17. Chemical Abstracts.
18. The Clinical Journal.
19. Journal of Experimental Medicine.
20. Journal of Medical Research.
21. Journal of Pathology and Bacteriology.
22. The Lancet.
23. Laryngoscope.
24. Mitteilungen und der Medizin & Chirurgie.
25. Index Medicus.
26. Journal of American Chemical Society.
27. Journal of Abnormal Psychology.
28. Journal of Mental and Nervous Diseases.
29. American Medical Association Journal.
30. Medical Record.
31. New York Medical Journal.
32. Institute Quarterly.
33. Southern Medical Journal.
34. Ophthalmoscope.
35. Zetlschrift Urologie.
36. Journal of Obstetrics and Gynecology of the British Empire.
37. Dominion Medical Journal.
38. Old Dominion Monthly.
39. The Boston Medical and Surgical Journal.
40. Journal of Alumni Association of P. & S.
41. Journal of Physiology.



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No. 2

JULY, 1915

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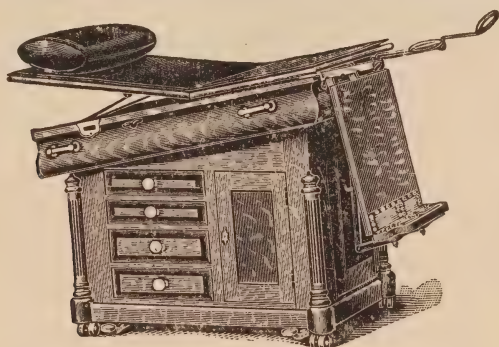
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# THE JOURNAL

## OF THE ALUMNI ASSOCIATION

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---

#### AN UNUSUAL CASE OF GENITO-URINARY TUBERCULOSIS.\*

By ROSS ANDERSON, M. D., SALT LAKE CITY, UTAH.

Mrs. C. J. L., age 34; housewife, married. Family history negative. Past history negative.

*History of Present Trouble.*—In March, 1913, the patient began to complain of backache and pain in right side. Two months later she gave birth to a healthy child. Since the birth of the child the patient has complained of slight fever, loss of appetite, weakness, night sweats, backache, and pain in the right side. She had frequent desire to urinate and was very nervous. Menstruation began six months after child was born; it was regular but profuse, and lasted seven days.

*Physical Examination.*—General appearance, run down; mucous membranes, pale; tongue furred. Temperature  $99\frac{4}{5}^{\circ}$  F. in morning, and  $103^{\circ}$  F. in the evening; pulse 96 to 110 regular. Heart and lungs were in good condition. There was a tumor mass involving right tube and ovary.

*Diagnosis.*—Infection in right tube and ovary, probably tubercular. I advised operation, but the patient refused, so I gave general tonic treatment.

September 2, 1914, or eighteen months after the beginning of the first symptoms, I was called again. At this time the patient complained of severe pain in right side of body, which was worse in the shoulder and

\* Reprint from Surgery, Gynecology and Obstetrics, February, 1915, pages 239-240.



radiated down the right arm. She had headache. Examination showed that the tumor had grown larger, extended higher, and seemed adherent to back.

Operation September 4, 1914. Growth is seen to involve uterus, right tube and ovary, right ureter, and kidney. Kidney shows hydronephrosis. I removed appendix, which was adherent to mass, uterus, right tube and ovary, ureter, and kidney. The growth involving the ureter was firmly adherent to the iliac artery and vein. In freeing the growth from the common iliac vein, the vein tore as would wet pasteboard, and this necessitated ligation in two places, above and below the point of rupture. In closing the abdomen there was a marked venous oozing, which showed how readily the collateral circulation was established.

The patient made an uneventful recovery and left the hospital on the twelfth day following the operation. The pathologist reports that the tumor was not a new growth, but a degenerative process, but he was unable to give it a definite name. The growth showed a degenerative process identical with that seen in tubercular caseation.

So far as I have been able to search the literature, I have never found a case reported where the common iliac vein was ligated.

I should have stated that the growth involving the uterus and right broad ligament was about as large as a good sized orange and that the ureter was about one and one-quarter inches in diameter and had the appearance of a sausage. The cause of the hydronephrosis was the involvement of the ureter with the tuberculous growth.

---

## OUR PUBLIC HEALTH SITUATION.\*

(CONCLUDED.)

By WILLIAM W. GOLDEN, M. D.,

*President of West Virginia State Board of Health, Elkins, W. Va.*

### III. THE REMEDY.

I believe I have said enough to convince you that the sanitary conditions of our state are not what they should be, and that in consequence our public health is suffering. What shall we do about it? The remedy lies

\* Address delivered at the annual meeting of the West Virginia State Board of Trade, October 14, 1914, Wheeling, W. Va.

in perfecting an efficient public health administration through the enactment of proper laws and through an appropriation of a sufficient amount of money. Our present public health administration is, as you know, in the form of a State Board of Health. Under the best of circumstances this is not the best form for such an administration. The board, of course, is not in continuous session, and periodic meetings do not answer the purpose to administer matters that present problems for solution with almost daily frequency. The secretary, who is the executive officer of the board and health commissioner of the state, is only empowered to carry out the orders of the board, and is not supposed to take upon himself the responsibility of the initiative. And thus we have a State Board of Health which has to a certain extent the power to initiate, but is not available for continuous service, and a health commissioner who is available for continuous service, but has not the power to initiate. By far the most ideal public health administration is a state department of health having a head clothed with power to do things and made solely responsible for all that occurs in his department. As an adjunct to such a department it is advisable to have a Board of Health to act in an advisory capacity, such a board to consist of qualified physicians, with the addition of one member a lawyer, one an engineer and one a business man. However, while such a form of administration is most desirable, it is not of vital importance, and the Board of Health on the present lines of organization can be made to answer the purpose, provided, as already intimated, it be made efficient by suitable legal and financial provisions. Under our present law our health administration is inefficient for want of a sufficient force of men to render all the necessary service. It is idle to expect improvement in our sanitary conditions as long as the secretary of the board is the only person with technical training paid to look after them. The only aid he receives now is such as the other members of the board can voluntarily spare from their exertions to make a living. In consequence much needed work is necessarily left undone, and that which is done must confine itself to the urgent needs of the hour and place without regard to constructive work in the interests of the next hour or the next place.

It would take the entire time of a trained sanitarian and epidemiologist to direct the gathering of vital statistics and to utilize them to advantage

by proper compilations, classifications and mapping. It would require the entire time of a competent chemist to conduct all the necessary work in the interests of pure food, water and drugs. And the same is true of a competent bacteriologist to do the work necessary to solve the daily problems in the prevention of communicable diseases. As far as chemical and bacteriological work is concerned a beginning has been made with the establishment of the hygienic laboratory, which is doing very good work. But with the funds available it is impossible to expect from it more than a very small fraction of this kind of service needed by the state. One of the most pressing needs is a bureau of sanitary engineering. As already intimated, many of our problems in connection with public health are engineering problems. Neither is there at the present, nor was there ever in the past, a sanitary engineer connected with the State Board of Health, and there is not a member of the board who pretends to the least knowledge of this profession, for the law says that all its members must be physicians in active practice. But with all these deficiencies supplied, the results would be very small without a sufficient and efficient field organization. It is presumed by the present law that the bulk of the actual public health work is carried on by the county and town health officers. This as a rule is not true and could not be true as long as these health officers are not employed to give their entire time to the duties of the office. Practically all our health officers are physicians in active practice, who can spare but very little of their time from their professional duties. Many of these men are doing excellent work in the interest of public health out of civic pride and duty. But nowhere can this work meet the actual needs. At the same time we must realize that the time has hardly come when our numerous small towns can be expected to pay health officers for their entire time, although even now such a thing is feasible by two or more towns employing one all-time officer jointly, and it is even more so in the case of counties. The practical solution of this part of the problem is found in the plan recently adopted in the state of Maryland and elsewhere. Last winter the Legislature of that state passed a law dividing the state into ten sanitary districts, with a deputy health commissioner in each of these districts. These deputies are under the direction of the state health commissioner and the State Board of Health and give their entire time and attention to the sanitary conditions of their respective districts, keep-

ing in touch with the local health officers of the same to supplement their efforts when needed or take the work entirely into their own hands when the local administration is unequal to it.

Having provided a suitable organization for the administration of public health laws on the lines suggested, the next step of importance is to place upon the statute books an up-to-date set of public health laws. In a fragmentary way we have a number of laws now that are good as far as they go, but many of them are insufficient, others lack suitable provision for practical enforcement and still others are obsolete. There ought to be a thorough revision of these laws, avoiding a repetition of the haphazard patchwork of the past. If I had my way, I would strike out the entire chapter 150 of our code and all other laws pertaining to public health found in various places and would substitute a new chapter modeled after the best to be found in other states, retaining, of course, everything that is good in our own. It would take too long to enumerate what we ought to have in our new laws and what the present State Board of Health hopes to see enacted. I have already incidentally referred to some of them. I will mention a few others without an attempt to present them in any systematic manner.

The law should prohibit any town, plant or individual from making use of our natural streams either for the disposal of sewage or for getting a water supply without a permit from the State Board of Health. This permit to be issued only after an investigation by a bureau of sanitary engineering to determine the question of safety. As it is now the only effort practical to stop pollution is to take legal steps after the pollution has already been started and proven injurious. And the slow proceedings of the courts, together with the trivial penalties inflicted in cases that have been tried, make such an effort of small consequence. Just as towns very wisely require a permit for the tapping of water and sewer mains, so should the state require the same for the tapping of its water courses.

A law that would strike at the root of our unsanitary conditions is one that would require that every county should set aside not less than two per cent of its disbursements for the protection and betterment of public health within the county, and, please note, that the expenditure of such funds be subject to the approval of the State Board of Health. I am under the impression that the extent to which the counties and towns of



Maryland can issue bonds is greater than it is with us based upon the valuation of property, and yet the law there authorizes the issuance of special bonds for sanitary purposes over and above the ordinary bonding limit, provided that the need for the same is approved by the state health department. This is an excellent provision and we ought to copy it.

I believe that our tuberculosis sanitarium is doing good work and will do better work with an increase in its capacity. The State Anti-Tuberculosis League rightly maintains that this sanitarium should confine its work to curable cases. For the incurable ones, both in the interests of their comfort and to stop them from becoming a source of infection in their homes and neighborhoods, it suggests that local sanitariums be established by each county, or by two or more counties clubbing together, and that the expenses of the same be paid in part by the state. What the league has in mind is to pass a law providing that the state shall contribute one-third of the expenses of each such sanitarium, the rest to be borne equally by the county and local anti-tuberculosis league or other source of voluntary contribution.

Inasmuch as typhoid fever constitutes the worst problem we have to deal with in our state, the law should make some special provision for a campaign against this disease somewhat similar to what it is now doing in the educational campaign against tuberculosis. As a prominent feature of this campaign the state should distribute anti-typhoid fever vaccine free.

It is most important that the State Board or department of health should be given power to look after sanitary conditions in any part of the state to the extent of actually doing any and all such things that may become necessary in the interests of public health in any county or town when the local administration is careless or slow. But above all, our State Board or department of health should be given a sufficiency of money power, as without this power public health laws must remain a dead letter. Public health is not a cheap commodity. As an asset of any commonwealth, it is estimated to be from three to five times the value of physical assets. An appropriation for this purpose of fifteen thousand dollars a year is entirely inadequate. It is the opinion of the United States Public Health Service that every state should appropriate for public health purposes at least two per cent of its total disbursements, outside of appro-

priations for special work and institutions. On the basis of our expenditures for 1912, as given in the Auditor's last published report, our state should appropriate for public health purposes \$110,000 a year. Maryland, with a population about the same as ours, appropriates \$142,000 a year, and you will remember that one-half of its population is in the city of Baltimore, which looks after its public health independently.

It is the intention of Governor Hatfield and the State Board of Health to present to the next Legislature bills embodying the ideas I have expressed to you with a view of placing West Virginia in a line with states that are progressive in public health matters. Our unsanitary conditions are well known on the outside and are receiving a considerable amount of just criticism from neighboring states. The matter, therefore, assumes an aspect of state pride, as well as that of vital physical welfare.

#### IV. A PLEA.

I appeal to you to endorse the proposed program of legislation. I appeal to you first on the ground of self-preservation. It matters not how scrupulous you and your families may be in the practice of personal and domestic hygiene, under the complexity of civilized life it is impossible for you to effectually guard yourselves and your families against the communicable diseases. I appeal to you, secondly, as citizens noted for a high sense of civic duty, which is merely another term for the practice of the Golden Rule. What better way can there be to practice this Rule than by an effort to save our neighbors and fellow citizens in general from the ravages of preventable diseases? Lastly, I appeal to you as members of the State Board of Trade. As such, I presume, you must officially have a commercial reason for lending your support in the interest of public health. I have already alluded to the financial value of public health. I have given you the basis upon which this value is computed. When at leisure, you will find it very interesting to translate our losses through typhoid fever, for instance, into figures of dollars and cents, and this will furnish an excellent commercial argument in favor of my plea. But arguments of this sort refer to benefits derived from stopping losses and are in a sense in the interest of saving rather than direct gain. Is there

any benefit to be derived from an investment in public health in the form of actual additions to our physical prosperity? There are many such possible additions, and I will stop to discuss only one of them. Our climate the year around is equal to the best of nearby states, but during the summer it is so invigorating and delightful that it has not an equal nearer than that of Maine or that of the Lakes. Visitors spending a summer night in our mountains are forever yearning to return to repeat the experience. Our natural scenery is the wonder and admiration of all tourists, and they never cease talking about it. Our numerous mineral and thermal springs have a considerable reputation, and deservedly so. The fishing in our natural streams has always been a great attraction to seekers of out-door sport from far and near; and we have no mosquitoes. By virtue of all these and other natural blessings our state furnishes ideal conditions for summer and health resorts. It looks to me as if nature has placed this mountain state within easy reach of the congested centers of population for the very purpose of furnishing their inhabitants with a convenient retreat, where to escape the disagreeable effects of the summer heat. It seems to me as if every hill-top was destined to support a fine summer hotel or sanitarium. That this is desirable from a business point of view is evident even now, but will become more so with the exhaustion of some of our natural resources, especially when our hillsides become denuded of their heavy timber. Already it has become a problem in many sections of the state what to do with the land after the lumber operations have ceased. Part of the solution of the problem lies in attracting city folks to come and dwell with us in the summer and partake of nature's liberality. I believe that our state would become a vast summer and health resort to the people of the East and the South, if it were not for one circumstance. This circumstance lies in our unsatisfactory sanitary conditions. Take for instance our typhoid situation. It is well known outside of our state. In fact, Pittsburgh and Washington attribute, perhaps mistakenly, some of the typhoid in their own homes to the pollution which reaches them from this state through the tributaries of the Monongahela and Potomac. Let us make West Virginia healthful and boost her accordingly.

# INTESTINAL OBSTRUCTION DUE TO CANCER OF THE COLON.\*

WITH A NOTE ON THE OPERATIVE TREATMENT OF THIS CONDITION.

BY ALEXIUS McGLANNAN, M. D., BALTIMORE, MD.

Intestinal obstruction due to cancer of the colon may be either acute or chronic, occurring as the symptom of onset of the malignant disease, or as a development during its course. In addition to these forms there is the post-operative acute obstruction, which may occur after removal of the tumor or an operation designed for palliation.

In the series of 98 cases studied for this paper, 61 have an obstruction of some sort in their pre-operative histories. In 33 the tumor was found to be operable, and 13 patients were cured. An obstruction, therefore, is a little more likely to occur in the course of a curable than an incurable tumor and has this value in prognosis.

The position of the tumor in each of the groups is shown in the table.

TABLE SHOWING ULTIMATE RESULTS ACCORDING TO THE LOCATION  
OF THE TUMOR

Location of tumor	Obstructive Group			Non-obstructive Group		
	Cured	Inoperable Living	Dead	Cured	Inoperable Living	Dead
Cæcum .....	5	2	10	5	2	8
Appendix .....				1	1	
Ascending and hepatic .....	1	1	7	0	0	8
Transverse .....	2	0	2	0	0	1
Splenic and descending .....	1	1	6	0	1	3
Sigmoid .....	4	3	15	0	2	3
Unknown .....			1		1	
Multiple .....						1
Totals .....	13	7	41	6	7	24

\* Reprint from Surgery, Gynecology and Obstetrics, October, 1914, pages 475-481.



An acute obstruction occurred as the symptom of onset in ten cases. Seven were operable tumors, of which number four were cured and three died, one from the toxæmia of obstruction, one from embolism, and one from a post-operative obstruction. Three patients had inoperable tumors, one of whom is still living two years after the removal of the tumor and the accessible metastatic glands.

Occurring during the course of the disease, an acute obstruction is found in 20 cases. Of these, 14 were operable tumors: four are cured; five died from the toxæmia of the obstruction; one from an acute dilatation of the stomach coming on four days after the complete removal of the tumor; two from shock; one from embolism 70 days after the removal of the tumor; and one from peritonitis nine days after the resection and anastomosis.

Chronic obstruction as the initial symptom occurred in ten cases. Four are cured; one patient whose tumor was felt to be inoperable is living one and one-half years after a short-circuiting operation. None were operated upon because of this symptom alone, but three of the cured cases came to operation on account of an acute obstruction developing during the course of the disease. Of the remaining cases six were operated upon on account of the persistent obstruction, or an alternating chronic obstruction and diarrhœa; three had operable tumors, and two died from post-operative obstruction. In one case the operation was the incision of an abscess of the lumbar region, due to infection of the muscles by the perforation of an infiltrating tumor.

Chronic obstruction during the course of the disease is noted in 27 cases. Twenty-two patients were operated upon on account of the persistent chronic obstruction either with or without some corroborative symptoms. Five patients are cured, and four in whom the tumor was found irremovable are living. Two of these are short-circuited, one has a colostomy, while the fourth patient was closed after a simple exploration.

Among the fatal cases, eight patients had operable tumors: four died of post-operative obstruction, one of embolism, one of acute dilatation of the stomach, one of pneumonia, and in one case the history is incomplete and the cause of death is not given.

Of the 37 unobstructed cases, six are cured. Three others had operable tumors, but died as an immediate result of the operation of peritonitis

resulting from a leaking suture. Seven patients who had irremovable tumors at the time of operation are living. In two of these a short-circuiting was done; four were simply explored; in one a colostomy was performed. Sixteen are dead as a direct result of the inoperable tumor.

In both series we have patients whose tumors were operable, but who died as a result of some accident or complication following the operation, and a second group in which the patients are living, although the tumor was irremovable at the time of the operation. Omitting these cases from the series, we have 32 in which obstructions occurred, of whom 13 recovered (40 per cent), and 22 non-obstructive, of whom six recovered (27 per cent). If we add to the cured cases in the first group those patients who died from the toxæmia of obstruction because of delay in operating, and who, therefore, might reasonably have been expected to recover had they been relieved earlier, we add six cases and have 60 per cent possible cures.

Recognition of obstruction as a symptom of cancer of the colon, and prompt operation for the relief of this symptom, at least, is of the utmost importance in advancing the possibility of cure for the patient.

Biologically, carcinoma of the colon is generally one of low-grade malignancy. The tumor grows slowly and has a strong tendency to be circumscribed in the extent of its invasion of the bowel. Metastases develop slowly and are seldom present until after the tumor has given fairly distinct warnings of its presence. These warnings are obstruction, acute or chronic; alternating diarrhœa and constipation; blood and mucus in the stools; progressive loss of weight and a sense of stiffness or spasm in the bowels. The obstruction is generally an obstipation rather than a strangulation, for which reason these patients often show visible peristalsis; visible or palpable spastic coil and other symptoms of the compensatory stage of obstruction, lasting for many days with little or no toxæmia.

Protective adhesions may cause volvulus, or intussusception, or an acute obstruction by a band, but these strangulation forms are unusual.

The gross pathology shows the tumor involving the bowel as a nodular mass, as a tubular or annular infiltration, or what is most frequent, a combination of these forms. The tumor may begin as a polypus. In the

beginning there is no alteration of the surface of the mucous membrane and no diverticulum or ulcer is found.

In the growth of the tumor the malignant cells advance either by expansion or by infiltration. In the former case the epithelial cells form a compact mass which is definitely circumscribed by a fibrous reaction on the part of the invaded connective tissue. From this barrier fibrous trabeculae extend into the epithelial masses, forming a more or less dense stroma. The mass of epithelial cells permeates the coats of the bowel as a globular mass with an encroachment on the lumen until it reaches the peritoneum, when the connective-tissue reaction becomes manifest in the formation of adhesions. It is at this point that the tumor-cells enter the lymphatics and metastasis to glands and distant organs occurs. The extent of adhesions, therefore, and particularly the relation of this extent to the size of the tumor, becomes a measure of the relative malignancy of the tumor.

Extension by infiltration is the more frequent method of growth, and may be either intra- or interglandular. The former is relatively rare, and in this variety the proliferating cells extend over or under the surface of the mucous membrane, or through the submucous coat. In morphology and staining characteristics the cells are changed very slightly from the normal.

Interglandular infiltration is the common form of growth, the extension occurring through the lymph-vessels. These vessels tend to form four groups: those of the mucous, the submucous, the muscular and the subperitoneal coats. The mucosa group begins high up in the spaces of the mucous membrane and coming down through the periglandular reach the subglandular lymphatics, situated on the medial side of the muscularis mucosa. These subglandular vessels are united to those of the submucosa by wide channels, and these in turn go in a perpendicular direction to join the muscular and subperitoneal groups.

The infiltrating cancer-cells, therefore, may grow horizontally along the peri- and subglandular lymphatics, forming a tubular mass, or out in the perpendicular channels to reach the submucous groups, in which event a narrow annular mass will be formed. Very often a combination of both forms occurs, and frequently the expansive form of extension is also present, so that a combination of the nodular, tubular, and annular tumor results.

Having reached the subperitoneal lymphatics, the malignant cells next stimulate the connective-tissue reaction in their vicinity with resulting adhesions between the tumor and surrounding viscera and the abdominal walls.

In adenocarcinoma, the variety most often associated with obstruction, the mass is hard, elastic, and nodular with occasional areas of softening from necrosis. On opening the bowel the tumor is quite definitely separated from the healthy mucous membrane by a wiry, hard edge, raised above its surface. Below the tumor the colon is normal or its wall is shrunken. Above, the wall is changed to a greater or less extent, depending on the degree and duration of the stasis produced by the tumor. This change varies from a simple hypertrophy of the muscularis to an extreme dilatation with paralyzed, flabby, œdematous and friable walls. The disturbed nutrition of the walls with the bacterial decomposition of the intestinal contents soon gives rise to a severe toxæmia which becomes fatal unless promptly relieved by operation.

Edema of the mucous membrane above the tumor is almost constantly present, and a rapid intensification of this œdema is the commonest cause of the acute obstruction occurring in the clinical course of these tumors.

Ulceration is common: a superficial shallow ulcer is most frequent, but the necrosis may form a perforating ulcer causing local or general peritonitis; a perforation into another viscus (for example, a pathological anastomosis); or an intermuscular abscess.

In carcinoma solidum, the late form of tumor, the mass is hard, often showing fine lobulations and ulceration, usually with perforation. Some stenosis will be present with its compensatory hypertrophy or resulting dilatation.

Vesicles of clear, viscid, gelatinous material shining out in various parts of the rather soft tumor characterize the gelatinous or colloid form of carcinoma of the colon. The soft masses of peritoneal metastases occurring in this colloid form of carcinoma solidum may be confused with tuberculosis of this membrane.

Histologically, carcinoma of the colon is divided into three varieties, according to the character of the epithelial cells and their arrangement. The third form seems to be the end-result of the growth of the first two; while the second is apparently a metamorphosis occurring in the first



variety when the vigor of the malignant growth of the epithelium is markedly greater than the resistance of the reaction on the part of the connective tissue.

The first variety, adenocarcinoma cylindrico-cellulare, is most frequently found in the obstructive cases (42 of the 61 cases in this series). The tumor-cells are cylindrical epithelium very slightly changed from the normal cells of the mucous membrane. The proliferation begins in the fundus of the glands with a piling up of several rows of cancer-cells, which soon form an atypical glandular mass beneath the basement membrane. A simultaneous connective-tissue reaction forms a protective barrier separating the tumor from the surrounding healthy tissue and sending strands into the epithelial masses, as the stroma. The glandular arrangement is preserved in the extensions of the tumor in the wall of the bowel and is reproduced in the metastases. The latter occur quite late in the disease, in those tumors where the cells retain the cylindrical form.

In certain tumors proliferation of epithelium goes on to form solid tubes rather than take the ordinary glandular form. At the same time the type of cell changes from the cylindrical to a flat polygonal cell, with a large deeply staining nucleus; that is, a cell of the same type as the cuboid cell of the epidermis. The tumor, therefore, is called adenocarcinoma cubocellulare. The connective-tissue reaction is slight and the barrier insignificant. The epithelial cells grow rapidly with abundant mitoses, and, quickly permeating the bowel wall, form widespread metastases to lymph-glands and distant organs. This variety of tumor is more commonly non-obstructive, and has brought about the death of the patient in each of the 17 cases in which it was present in this series.

The third variety, carcinoma solidum, is the end-product of the local growth of the first two. It is not a measure of the duration of the tumor, but considered in relation to the duration, the presence of this form is rather an indication of the degree of malignancy of the tumor.

The cells are flat, oval, or polygonal, and are found in large solid masses in a scanty fibrous stroma—the medullary or alveolar tumor, or in small epithelial areas in a considerable stroma—the scirrhus or diffuse form.

Metastases to lymph-glands or distant organs are nearly always present with this third variety of tumor and make the prognosis practically hopeless.

*Carcinoma Gelatinosum*.—Many of the tumors of all varieties have goblet-cells containing gelatinous or mucoid material with the cylindrical or cuboid ones. A preponderance of the mucoid cells gives the tumor a softer consistency, while its relative malignancy is controlled by the presence or absence of the cuboid cells. In addition to the usual routes of extension, tumors of this type show a marked tendency to spread on the serous coat of the bowel and form diffuse metastases on the peritoneum.

In planning the treatment of the obstructive form of tumor, we must arrange for the relief of the obstruction and combat its toxæmia, should this exist. At the same time the operability of the tumor must be determined and this fact with the method for its removal be kept in mind while arranging for the immediate relief of the obstruction.

The method chosen, therefore, must vary within quite wide limits. For the sake of easy reference I will describe first the findings at exploration which determine the operable or inoperable nature of the tumor. These are:

First. Extensive firm adhesions between the tumor and adjoining loops of intestine, other viscera, and especially between the tumor and the lateral and posterior walls of the abdomen. Adhesion to other loops is not necessarily a sign of inoperability, provided the excision of the tumor and the adherent coil is technically possible. In one case of this series a sigmoid cancer involved a loop of ileum in its growth. The entire mass was removed and the patient is living and well three years after the operation.

Second. Metastases to the peritoneum, liver, other portions of the intestine, and to the retroperitoneal glands. The route of metastasis may be indicated in a fairly definite way according to the localization of the tumor. Those of the cæcum give metastases to the mesocolon, stomach, small intestine, and to the supraclavicular glands, but do not involve the liver or pancreas. Tumors of the hepatic flexure reach the liver as well as the stomach and the supraclavicular glands. Sigmoid tumors are especially likely to have metastases to the liver.

Third. Involvement of other viscera or the abdominal wall by a direct extension of the tumor.

Fourth. Involvement of the great vessels, especially the femorals, by the growth of the tumor.

According to the condition of the patient at the time of operation we may make the following groups:

1. *Acute Obstruction with Toxæmia, no Localizing Symptoms.*—That is, a patient who shows only the symptoms of acute obstruction, without a mass, visible or palpable spastic coil, local tenderness or other signs indicating the position of the obstruction. In such cases a midline exploration should be made, best under local anæsthesia, and an immediate enterostomy performed. The position for making this opening will depend largely on the character of the tumor. With an operable tumor it is better to have the enterostomy through a wound in the side of the abdomen opposite the location of the tumor. This makes it possible to remove the tumor at a later date through a clean field not encumbered by adhesions about the enterostomy. Whenever possible the cæcum is the best place for this opening. The bowel should be opened at once, and a tube inserted.

The toxæmia may be combated by subcutaneous salt solution given in large quantity, slowly through one or two small caliber needles, adding adrenalin if the blood-pressure is greatly lowered. The stomach should be washed out and castor oil poured in through the tube after the lavage. When the tumor is situated a distance from the enterostomy—for example, in the sigmoid with a cæcostomy opening—the impaction of the colon will continue the toxic symptoms after the small intestine has been emptied. For such cases, warm oil given by the drop method through a catheter into the enterostomy, will soften the masses which will be expelled later through the wound or by the anus. After the obstructive symptoms and the toxæmia have disappeared, the tumor is to be attacked as described under the chronic obstructions.

Should the exploration prove the tumor inoperable, the colon should be opened immediately in the most convenient place for the artificial anus, unless it is felt that a short-circuiting anastomosis around the tumor could be done later. In the latter case the bowel should be opened across the abdomen. This same rule applies when the patient has localizing symptoms in addition to those of acute obstruction.

2. *Chronic Obstruction.*—Here there is not the urgent need of relief required by the patients in the first group. Localizing symptoms may be sought for, and one of the most valuable of these is the X-ray picture after the administration of bismuth by enema or by mouth. Having deter-

mined the probable seat of the tumor in such a case, the abdomen is opened in the most convenient place for exploration, and one of several methods is then available for the treatment of the tumor.

Operable tumors:

(a) Resection and anastomosis. When the patient is in good physical condition, without toxæmia or anæmia, and the bowel empty, removal of the tumor and immediate restoration of the continuity of the bowel is possible. This operation is the most satisfactory because at a single séance we are able to cure the patient. Unfortunately, few patients come to us in condition for this operation. The lateral anastomosis is the method of choice, and when both segments are of the large intestine, the anastomosis described by Bloodgood<sup>1</sup> should be used. In this method the closed ends are brought side to side, as the thumbs may be approximated and are then anastomosed. The turned-in ends are sutured outside the parietal peritoneum. Leakage, which is most likely to result from imperfect circulation of these ends, then forms a superficial fistula instead of a peritonitis.

Among the operable tumors in this series four patients died of peritonitis from leakage at the site of the anastomosis. The thumb method was not used in any of these fatal cases.

(b) Resection and anastomosis, bringing the open ends of the segments out of the abdomen. Impaction of the bowel above the resection, with subsequent fatal post-operative obstruction from this cause, occurred in one operable case treated by resection and anastomosis. Such a disaster may be avoided, as may also the danger from sloughing of the ends of the segments, by making the anastomosis as usual, but instead of closing the divided ends, bringing them to the skin surface and closing the wound around them. In this way we provide free exit for the bowel contents above the anastomosis as long as this may be required, and having already completed the removal of the tumor and the anastomosis we make the closure of the fistula a simple procedure.

The method has an advantage over that of anastomosis with enterostomy above the suture, in that it drains the lowest portion of the bowel, that in which impaction is most dangerous.

<sup>1</sup> Tr. Am. Surg. Asso., 1909, xxvii, 340.



(c) The protrusion operation. This method is especially useful when dealing with anæmic patients in whom relief of obstruction by enterostomy has not improved the general condition. Toxæmia from the tumor continues to depress the nutrition, while the condition of the patient makes an extensive operation impossible and at the same time renders the process of healing less certain. In such cases the surgeon is confronted with the necessity of operating and the dangers of shock and sloughing.

In the protrusion operation the vessels supplying the area to be removed are ligated and the mesentery divided, the tumor with the lymphatic glands is delivered through the abdominal wall, and the peritoneum closed. After 48 hours the bowel is divided by the cautery, no anæsthetic being required, and the patient left with a double enterostomy. Later the spur between the loops of the enterostomy is divided by pressure of the enterotribe.

A modification of this protrusion makes the lateral anastomosis before delivering the tumor. After the bowel is divided in this modification, the patient is in the same condition as after the operation (b). The great advantage of the protrusion operation lies in the speed with which it may be performed and the entire freedom from soiling of the peritoneum and from danger on account of imperfect circulation in the ends of the bowel. It has an advantage over the preliminary short-circuiting in that the abdomen is opened but once, and the risk and annoyance of dealing with post-operative adhesions is avoided.

For the irremovable tumor we have two operations:

1. Short-circuiting; that is, a lateral anastomosis of a loop of bowel above with one below the tumor. In this way a new route is opened for the passage of fæces and the obstruction is overcome. This short-circuiting may be combined with enterostomy above the anastomosis for the relief of toxæmia, or better, with a temporary opening near the tumor in order to give egress to the accumulation immediately above it.

2. Colostomy. In some tumors, especially those of the sigmoid, it is impossible to do a short-circuiting operation. For such patients a colostomy is the only recourse. The bowel may be divided above the tumor and the end brought out of the wound, or the loop may be sutured to the abdominal wall and opened laterally. If the bowel be divided the lower segment is closed and inverted, while the upper one is brought through and

under the rectus muscle, much as is the stomach in a Ssbanajew-Frank gastrostomy; or when this is impracticable the segment of colon is twisted around its long axis half a circle and then brought through the muscle.

The after-care of the colostomy patient may add a great deal to his comfort or misery. A dressing that will prevent leakage of fæces and escape of gas is a valuable aid to these patients. Such a dressing is described by W. W. Keen.\* A dummy truss is the "key to the situation" with this dressing, but all the details are important for its success.

More recently a simple obturator has been described. This consists of a finger cot fixed over the end of a small catheter and wound loosely with a thin layer of gauze. This is inserted into the colostomy so that its tip is well inside the abdominal wall. The finger cot is then distended by air pumped into it through the catheter, the latter clamped and a water and air tight obturator is the result. When it is desired to remove the plug, the air is allowed to escape. The gauze wrapping prevents the rubber slipping out of the opening.

Careful regulation of the diet and regularity in emptying the bowel by enemas, with the use of one of these methods of dressing the colostomy, will overcome many of its annoyances. This is most important because these patients are apt to live a long time and proper management of the artificial anus gives them great comfort.

\* Journal American Medical Association, 1912, ix, 1419.

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## PROGNOSIS IN CARCINOMA OF THE UTERUS.†

By WILLIAM SISSON GARDNER, M. D.,

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The prognosis in carcinoma of the uterus depends upon the variety of the carcinoma, the progress that has been made when it is discovered and the treatment instituted.

We have as a rule depended for our prognosis almost entirely upon the degree of advancement and the treatment, and have said little about the variety of the carcinoma. Many of our statistics giving reports of cures

† Reprinted from Maryland Medical Journal, Baltimore, Md., May, 1915.

of carcinoma of the uterus by some particular operation have almost invariably failed to state the variety of cancer operated upon, or the classification has been confined to a simple division into carcinoma of the cervix and carcinoma of the body of the uterus. While this simple division is of some assistance, it is very far short of what should be stated. This becomes clear when we remember that there are at least four distinct types of carcinoma of the cervix and certain modifications in the type of the adeno-carcinoma of the body of the uterus.

Covering the vaginal portion of the cervix and extending as far as the external os we have the same variety of squamous epithelium that covers the vaginal mucous membrane. From this squamous epithelium we have three distinct varieties of carcinoma developing; the first variety made up of cells from all the layers of the squamous epithelium, which for lack of a better name we will call squamous carcinoma; second, the basal cell epithelioma, which is developed from the lowest layer of the normal epithelium, and third, the scirrhus carcinoma, which is characterized by its slow growth and the increase of the connective tissue between the masses of penetrating epithelium.

Of these three varieties, the squamous carcinoma is the most malignant. It is the type commonly found in the younger women and extends very rapidly. In this variety the invading epithelium dips into the normal tissues in large masses. The epithelial cells are very irregular in size, shape and staining qualities. In the tissues of the cervix, just beyond the epithelial invasion, is a zone crowded with small round cells. This variety of carcinoma extends more rapidly than any of the others, getting out into the broad ligaments at a very early period of its growth. It has very little tendency to extend upward into the uterus. Even in the last stages it is very rarely seen to have penetrated the uterus farther than the internal os. This early extension into the broad ligaments and its rapid development makes the prognosis in this variety very grave.

In the basal cell variety the masses of penetrating epithelium are very much smaller in the earlier period of growth, and they are distinctly isolated from each other. It can be recognized by the uniformity of epithelial cells both in size and distribution of chromatin, and by the usual absence of pearls and prickly cells. It has a tendency to grow upward into the uterus, and less tendency than the squamous cell variety to penetrate

into the broad ligaments. It does not break down and begin to bleed quite so early as the squamous carcinoma. For this reason it sometimes makes great progress before there are any symptoms to call attention to its presence. When discovered early it is much more easy to remove it completely than the squamous cell variety.

In the scirrhus form there is a very slow invasion by the epithelial cells. The cells are very deficient in chromatin, and there is a great increase in the connective tissue, which apparently affords resistance to the invading epithelial cells. The result is that this form of malignant growth makes very slow progress and may extend over a long period of years before there is any great destruction of the tissue.

The mucous membrane of the cervical canal and the glands in it are lined by a high columnar epithelium which is present in a single layer. From this variety of epithelium we have developed adeno-carcinoma of the cervix. When examined microscopically we find a large number of new gland spaces. These new gland spaces are lined not by a single layer of epithelium as in the normal glands, but by an irregular number of layers of epithelium. This increased proliferation of epithelium has the tendency to ultimately fill all the gland spaces. The nuclei of the glands are irregular in shape and the staining is very irregular. The newly-formed cells stain the more deeply. Adeno-carcinoma of the cervix has little tendency to break down early, consequently it causes very little hemorrhage until late in the disease, and there is nothing to call attention to it in its early stages. Early adeno-carcinoma of the cervix is discovered by accident, if discovered at all. The reasons for the grave prognosis in adeno-carcinoma of the cervix is because it is usually not discovered until it has already penetrated the other structures in the pelvis outside of the cervix. If we had any means of detecting it early there is every reason to believe it could be dealt with as successfully as adeno-carcinoma of the body of the uterus.

The surface of the endometrium of the body of the uterus and the glands in it are lined by a low columnar epithelium which is present in a single layer. From this variety of epithelium develops the adeno-carcinoma of the body of the uterus. The growth starts usually by a variety of finger-like projections on the endometrium. On microscopic examination it is



developed in it a large number of atypical glands. The epithelium lining the glands is modified in character and the number of cells tremendously increased. This increase in the number of cells causes them to pile up within the glands. The proliferation of epithelial cells is so irregular that no two of the glands present the same general appearance. In the later stages the cell proliferation may be increased to such an extent that the appearance of the gland structure is almost lost.

Adeno-carcinoma of the body of the uterus begins to bleed very early; and if scrapings are examined microscopically is very easily recognized. As it starts much farther from the base of the broad ligament than carcinoma of the cervix, lateral metastases from it come much later.

If all patients who bleed were curetted promptly and the scrapings properly examined, we would rarely have a death from carcinoma of the body of the uterus.

When a carcinoma of the squamous cell variety is discovered the prognosis is always grave without reference to the progress that has apparently been made. By the time any symptoms are produced, in almost every case, there is an invasion of the broad ligaments. In later cases, where there is sufficient extension for the uterus to become fixed in its position, there is practically no hope of recovery.

Many of the basal cell variety offer a more favorable prognosis. In the untreated cases the progress is slower than that of the first mentioned type.

The scirrhus carcinoma develops still more slowly, consequently it runs a very much longer course. It apparently does not metastasise very early, and so offers a better opportunity for complete removal.

We have very few recoveries from adeno-carcinoma of the cervix, because as a rule it is not discovered until it has invaded the structures far beyond the cervix. Any carcinoma of the cervix that is causing pain has as a rule progressed beyond the point where there is any probability of it being permanently cured.

The prognosis in adeno-carcinoma of the body of the uterus is more favorable than any other variety of uterine carcinoma. This is due to the fact that there is little opportunity for this variety of carcinoma to extend directly to the other structures, and so long as any carcinoma is confined to the uterus it is comparatively easy to remove it.

Only about 13 per cent of carcinomas of the uterus, including all varieties, metastasise by way of the lymphatics. When the lymphatics are once invaded, there is very little hope of eradicating the carcinoma. Even after the abdomen is opened it is impossible to distinguish all the carcinomatous glands from the ones that are not affected. It occurs very frequently that enlarged glands are removed, which by microscopic examination are found to contain no malignant elements; while in the same pelvis there may be other glands which are not materially enlarged, but which are undergoing malignant changes. It has been found impracticable to remove all the lymphatic glands into which the uterine lymphatics lead, and when all of them cannot be removed it is useless to remove any.

When we come to the relation of operative procedure to prognosis, we still hark back to the pathology. We should stop speaking of the recurrence of carcinoma. A carcinoma that is completely removed does not recur. A carcinoma that is incompletely removed continues to grow, and what is ordinarily meant by recurrence after operation is simply that a portion of the carcinoma was never removed and has continued to develop. That operation will be the most successful that takes out the affected uterus with the widest area of the adjacent tissues.

The manner of removing the carcinoma is largely a matter of personal choice. Not one has obtained any better results than Dr John Byrne, who did a high amputation of the cervix and resected the broad ligaments with an electric cautery. Some operators have gotten very satisfactory results by vaginal hysterectomy, using clamps and subsequently cauterizing the clamped portion of the broad ligaments. By this means a very extensive destruction of the broad ligaments can be obtained. One great advantage of this operation is that the immediate mortality is very small.

Of 345 cases of vaginal hysterectomy for cancer reported by Ott, there was a mortality of 1.7 per cent. Of the 246 patients whose fate is known after five years, 34.1 per cent seem to be permanently cured. There is thus 17 permanent cures to one fatality. He tabulates along with his figures—Wertheim's published statistics of 500 abdominal cases; the immediate mortality was 19.4 per cent. Of the 180 patients whose fate is known after five years, 57.6 per cent seem to be permanently cured. The proportion of cures to one fatality is, however, only as 1.7 to 1.

Ott sums up his comparison of the end results with the two methods in the statement: "With the abdominal technic one gets one-and-a-half times more chances of permanent recovery after five years, but one runs 11 times more danger of dying during or after the operation."

It should be remembered that Ott's mortality rate from vaginal hysterectomy of less than 2 per cent is below the average. But the ordinary mortality of vaginal hysterectomy should not be more than about 4 per cent. On the other hand, Wertheim's mortality of a little over 19 per cent is far below the general mortality for the extensive abdominal operation. A mortality twice as great would be nearer the correct figure for collected statistics. Both Ott's and Wertheim's statistics would be very much more valuable to us if we knew what they had been operating for. In comparing the two methods of operation we are obliged to presume that the different varieties of carcinoma occurred in the two clinics in about the same relative proportion.

In conclusion, then, in stating the prognosis in any particular case of carcinoma of the uterus, we must consider, first, the type of carcinoma present; second, the progress that has been made when the patient comes for treatment, and last, the method adopted for the removal of the growth.

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# THE JOURNAL

## OF THE ALUMNI ASSOCIATION

OF THE

### COLLEGE OF PHYSICIANS AND SURGEONS,

### BALTIMORE.

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#### THE COMMENCEMENT.

The forty-third annual commencement of the college was held in the afternoon of June 1 at Albaugh's Theater. The exercises consisted of prayer by the Rev. Charles Fiske; the announcement of graduates and conferring of degrees by Prof. William Simon; award of prizes by Prof. A. C. Harrison, and an oration by the Rev. Dr. William Rosenau. The college prizes were awarded to Millard L. Raemore, Leon K. Fargo, T. H. Morrison and S. A. DeMartini. Those worthy of honorable mention were E. E. Fitzpatrick, H. H. Johnson, Alvin McClung and G. E. Sprowls.

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#### MERCY HOSPITAL APPOINTMENTS.

Medical Superintendent, Edward P. Smith; Resident Physicians, F. M. Moose, E. E. Mayer, R. H. Walker, A. E. Callaghan, T. H. Morrison, H. H. Johnson, L. K. Fargo, R. W. McKenzie, J. B. Lohan, E. F. Gott, F. X. Kearney, H. M. Stewart, T. K. Galvin, W. H. Bash, H. L. Rogers, F. P. Weltner.

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#### THE ALUMNI DINNER.

The annual dinner of the Alumni Association was given at the Hotel Rennert on May 31, 1915, under the auspices of the Executive Committee,



composed of Drs. Fleckenstein, McGlannan and Brack. Dr. Melvin Rosenthal acted as toastmaster and Dr. Standish McCleary responded to the toast on the faculty, Dr. F. D. Sanger of the adjunct faculty and Dr. J. L. Conarton to the Class of '15.

In addition to the responses to the regular toasts interesting remarks were made by our great moralist, Dr. John W. Chambers, who explained the faculty; Dr. Geo. W. Mitchell roasted his friends; Dr. Harry Friedenwald treated the past and present and future history of our Alma Mater; Dr. Fred Leitz told the latest Phoenix story. Dr. Samuel Allen, of Salt Lake City, the president of the Alumni Association, expressed his regrets in a letter, which was read by the toastmaster. Dr. Allen sent greetings to the alumni and words of wisdom to the graduating class.

The Class of '15 were elected members of the Alumni Association.

Dr. Chas. W. Vogel, '95, surgeon in the public health service and at present stationed in Baltimore, was elected president of the Alumni Association. Dr. Vogel has had a varied and interesting experience as surgeon in the service; he has always kept up his interest in the college and the Alumni Association and promises to take a greater interest in the future welfare of our Alma Mater. Dr. Millard Raemore of Pennsylvania, '15, was elected first vice-president; Dr. Michael Abrams of Baltimore, '09, was elected second vice-president; Dr. Harvey K. Fleckenstein, secretary, and Dr. Chas. E. Brack, treasurer, of the Alumni Association.

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## THE COLLEGE AND THE UNIVERSITY OF MARYLAND.

After a discussion that had prolonged itself over a period of several years a union of the College of Physicians and Surgeons and the University of Maryland School of Medicine has been agreed upon under terms that are equitable to both. It is believed that the united school has a great future in prospect.

The governing body, or the Faculty of Physic, is made up of an equal number of men from each of the original faculties.

The general method of conducting the teaching can be gathered from the following statement, taken from the forthcoming catalogue:

"The University of Maryland School of Medicine and the College of Physicians and Surgeons united in 1915, and hereafter the two schools will be conducted as one.

"The students of the first and second years will be taught by a single group of teachers.

"In order to utilize as completely as possible the large number of patients in the hospitals controlled by the Faculty, the third and fourth year classes will each be divided into two groups. One group of the third year class and one group of the fourth year class will be taught at the hospitals associated with the University of Maryland and the other group from each class will be taught at the hospitals associated with the College of Physicians and Surgeons. Students of the third and fourth years will have the privilege of choosing the group to which they will be attached. Students of both groups will have the same final examinations and will receive identical diplomas.

"The Faculty is therefore in position to offer to students of medicine and graduates a course of combined didactic, clinical and laboratory instruction which will compare favorably with that offered by any medical school in the United States."

---

### DR. SAMUEL T. DARLING.

It is with pleasure that we reprint the following notice from the Journal of the American Medical Association. Dr. Darling has made a name for himself in tropical medicine and is perhaps the most noted of our alumni.

#### AMERICAN SANITARY MISSIONARIES.

A note from Dr. Samuel T. Darling, mailed at Gibraltar, announces his safe arrival to that point on his journey to Asia. It will be remembered that Dr. Darling was appointed as a member of the International Commission, Rockefeller Foundation, to investigate the cause of anemia in Malay. He has been connected for about ten years with the health administration in Panama—the work which set a standard for the world to follow. It is significant that the men connected with that work are being selected to act as missionaries in carrying to other parts of the world the efficiency of service there displayed. The work of Dr. Darling had already been recognized abroad by an honorary fellowship in the Society of Tropical Medicine and Hygiene of London, and a corre-

sponding membership in the Société de Pathologie Exotique de France, the latter for his discovery of *Trypanosoma hippicum*. The discovery of this organism was followed by a complete investigation, which yielded a method of immunizing against this type of trypanosomiasis of mules, horses and other animals, and the knowledge that the disease was transmitted in corrals by the common house-fly. Dr. Darling accompanied Major-General Gorgas to the Rand and Rhodesia, and took part in the studies made there. The best wishes of his colleagues go with him to his new field of endeavor.

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## Obituary.

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WILLIAM H. SIPLE, '90; died at his home in Petersburg, W. Va., April 4.

ALBERT Z. BUCHEN, '76; died at his home in Hanover, Pa., March 24, from pleuropneumonia, aged 64.

WILLIAM C. JOHNSON, '87; a physician and druggist of Coleman, Fla.; was shot and killed by his son, June 6, aged 52.

IRA R. WETHERILL, M. D., '81; a practitioner of Bluffton, Ind., for 25 years; died in a sanatorium in Marion, Ind., April 21, aged 61.

SAMUEL J. WINDSOR, M. D., '86; aged 52; a Fellow of the American Medical Association; until two years ago a practitioner of Dames Quarter, Eastern Shore, Md.; died at his home in Baltimore, June 21, from heart disease.

HORACE W. NICHOLSON, '06; of Baltimore; a member of the Medical and Chirurgical Faculty of Maryland; visiting eye, ear, nose and throat surgeon to the General Marine Hospital, Crisfield, Md.; assistant in the nose and throat department of the University of Maryland and Mercy Hospitals, Baltimore; died at the home of his father in Chestertown, Md., April 14, from angina pectoris, aged 34.

SHERMAN VOORHEES, '93; formerly a Fellow of the American Medical Association and of the American Academy of Ophthalmology and Otolaryngology; and a specialist on diseases of the eye, ear, nose and throat; of Elmira, N. Y.; surgeon to the Arnot Ogden Hospital and local ophthal-

mologist for the Pennsylvania System; who was seriously injured in July, 1914, in an automobile accident; died from his injuries at the home of his sister in Brooklyn, May 1, aged 48.

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### Marriages.

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DR. LESLIE T. RUSMISSELLE was married to Miss Sarah Russell, the daughter of Mr. and Mrs. William O. Russell, of Waterford, Va., on Wednesday, June 16.

DR. HARVEY K. FLECKENSTEIN was married on the 12th of June to Miss Isabella Griffith, daughter of Mr. and Mrs. Riggs Griffith. The ceremony took place at "Retirement," Gaithersburg, Md., the home of the bride's parents.

Dr. and Mrs. Fleckenstein will make their home at 1624 Mt. Royal Ave., Baltimore.

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### Personal Notes.

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DR. CHARLES D. F. O'HERN, '07, and Walter E. Wright have purchased the Physicians and Surgeons Hospital at Tulsa, Okla.

DR. and MRS. JOHN M. SCANLAND have returned to their home in Warm Springs, Mont., after an extended visit in Baltimore.

DR. MARION W. UBERROTH has been elected president of the Seneca County Medical Society. Dr. Uberroth is now living at 46 Clay street, Tiffin, Ohio.

DR. and MRS. C. W. BIRDSALL are receiving congratulations on the birth of a daughter July 2. Dr. Birdsall, who is of the Class of '85, is now living at Westernport, Md., and will be pleased to hear from any of the members of his class.

DR. FRANK DWYER, '13, and Dr. R. H. Cather have taken positions in the State Hospital of Montana in Warm Springs, of which institution



Dr. Scanland is superintendent. Dr. A. Burton Eckerdt has resigned his position in the same institution to take up a position as pathologist in a private sanitarium.

DR. J. WILLIAM WATSON of '00, who has been practising at South Braintree, Mass., has retired from practise owing to ill health following an attack of diphtheria. After doing some post-graduate work, he has established himself at Tuft's Medical College in the department of Pathology and Bacteriology. Dr. Watson wrote an interesting article on a disease which he called the "Fifth Disease," which was published in the Boston Medical and Surgical Journal for June, 1909.

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### Correspondence.

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RICHWOOD, WEST VA., June 1, 1915.

*My dear Dr. Brack.*—I herewith enclose check for \$1, which please place to my credit on the JOURNAL.

I am always so glad to get the JOURNAL as it recalls so many pleasant days spent at the good old P. and S.

Fraternally yours,

KENNA JACKSON, '13.

JASPER, ALA., May 31, 1915.

*Dear Doctor.*—My check enclosed for \$1. Please send me the JOURNAL of Alumni Association, P. & S., for one year.

My address until November 1, 1915, is

ROLAND E. WYNNE, '13,

Ass't Surgeon U. S. Public Health Service,

Jasper, Ala.

After November 1, 1915, Washington, D. C., Hygienic Laboratory,  
25th and E streets N W.

978 BEDFORD AVENUE AT DEKALS AVENUE,

BROOKLYN, N. Y., June 3, 1915.

*My dear Doctor.*—I enclose herewith \$1 for 1915 subscription to the ALUMNI JOURNAL. I enjoy reading it very much.

Have just completed a most enjoyable service of two years at St. Catharine's Hospital, this city, and now I am out for myself at the above address, of which please take note.

With kindest regards, I am

Faithfully yours,

J. MOTT HEATH, M. D., '13.

SALT LAKE CITY, UTAH, June 21, 1915.

*Dear Doctor Brack.*—Am sending my dues with pleasure. Tell the Physicians and Surgeons Alumni to be sure and all see the fairs in California between now and December, and to stop off and visit me at Salt Lake City. Last week I was delighted by a visit of one of my classmates, Dr. H. B. Summerville of Clarion, Pa. He was accompanied by his wife. Had seen both fairs and are now touring Yellowstone Park, the greatest wonder land on this planet. Kind regards to all.

SAMUEL H. ALLEN.

MUNICIPAL HOSPITALS, SANTURCE, P. R., November 16, 1914.

Dr. Standish McCleary, Baltimore, Md.

*Dear Doctor and Professor.*—Kindly give to Dr. Brack the enclosed bill for \$1 for payment of our JOURNAL.

Last month we had our state board examinations and the three highest marks out of 19 men who took them were held by P. & S. fellows, myself, Carrera and Pujadas. This speaks very highly of our Alma Mater, P. & S.

I am holding a position of resident physician in these hospitals, being in full charge of the maternity ward. I am doing well and feel satisfied with my work.

Wishing you all as big success as ever, I beg to remain

Yours very truly,

DR. AUGUSTIN R. LAUGIER.

ELMIRA, NEW YORK, May 26, 1915.

*My dear Doctor.*—Enclosed please find my check for subscription to the JOURNAL for 1915.

As you perhaps know, Doctor, Dr. Sherman Voorhees of this city was a graduate of Physicians and Surgeons, Class of '93. Last July he and

his wife and only child, a son, were injured in an automobile accident. His wife died and the doctor was severely injured, the boy practically not at all. Since the accident the doctor had not been able to resume practice and May 1 he died at the home of his sister, also a physician, in Brooklyn. Dr. Voorhees was a very successful eye, ear, nose and throat specialist. He left an estate of \$110,000.

Dr. Melvin Coon, lately of Laquin, Pa., is doing special work in the Packer Hospital at Sayre, Pa.

Your humble servant is at present president of the Medical Society of the County of Chemung.

With best wishes for the college and sincere regards to yourself I am

Very truly yours,

C. F. ABBOTT.

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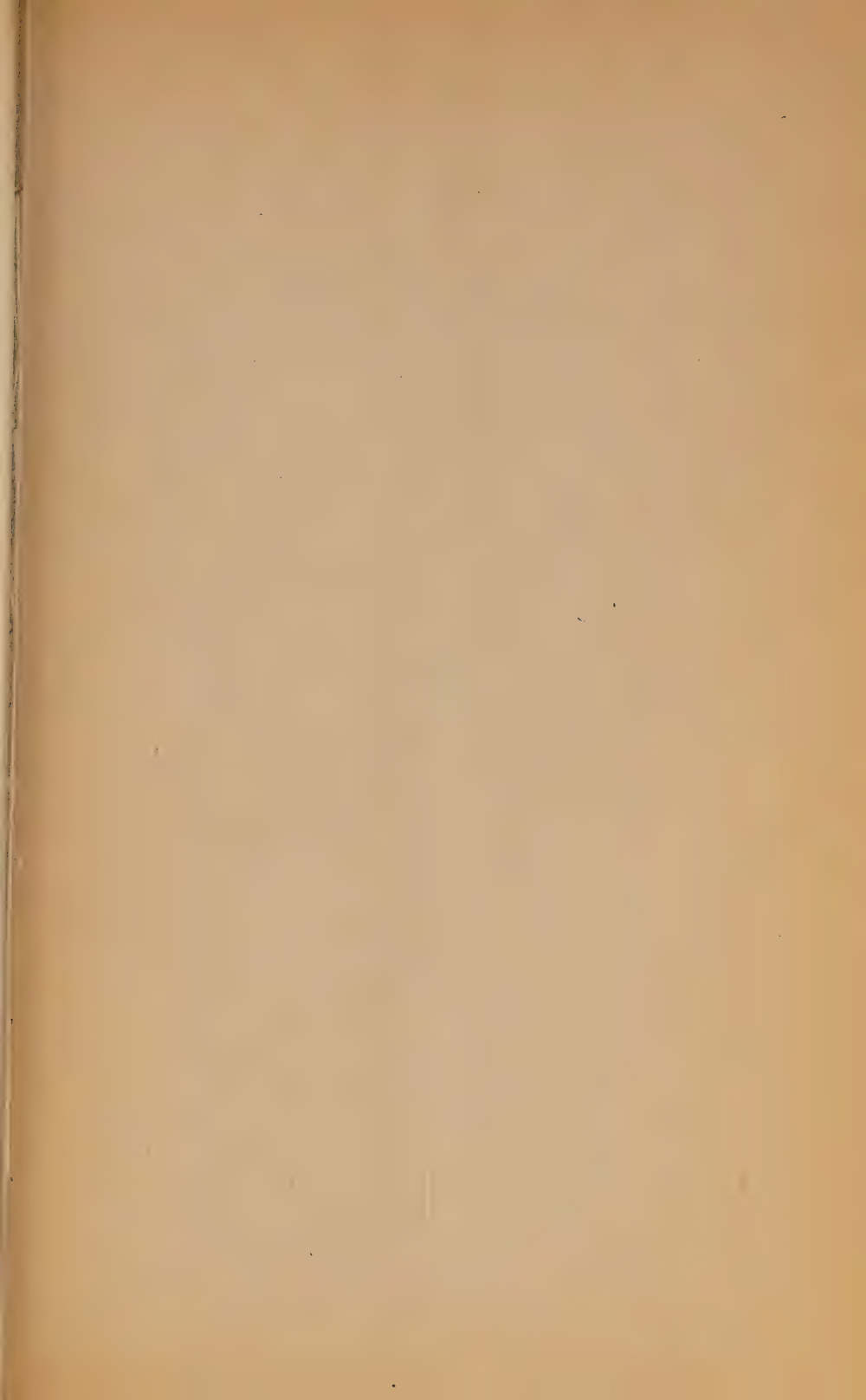
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1. American Journal of Anatomy.
2. American Journal of Biological Chemistry.
3. American Journal of Diseases of Children.
4. American Journal of Insanity.
5. American Journal of Medical Sciences.
6. American Journal of Physiology.
7. American Journal of Obstetrics.
8. American Medicine.
9. American Chemical Journal.
10. Annals of Otology, Rhynology and Laryngology.
11. Annals of Surgery.
12. Archives of Internal Medicine.
13. Brain.
14. Johns Hopkins Hospital Bulletin.
15. Medical and Chirurgical Faculty of Maryland.
16. Chemischen Berichte.
17. Chemical Abstracts.
18. The Clinical Journal.
19. Journal of Experimental Medicine.
20. Journal of Medical Research.
21. Journal of Pathology and Bacteriology.
22. The Lancet.
23. Laryngoscope.
24. Mitteilungen und der Medizin & Chirurgie.
25. Index Medicus.
26. Journal of American Chemical Society.
27. Journal of Abnormal Psychology.
28. Journal of Mental and Nervous Diseases.
29. American Medical Association Journal.
30. Medical Record.
31. New York Medical Journal.
32. Institute Quarterly.
33. Southern Medical Journal.
34. Ophthalmoscope.
35. Zerschrift Urologie.
36. Journal of Obstetrics and Gynecology of the British Empire.
37. Dominion Medical Journal.
38. Old Dominion Monthly.
39. The Boston Medical and Surgical Journal.
40. Journal of Alumni Association of P. & S.
41. Journal of Physiology.



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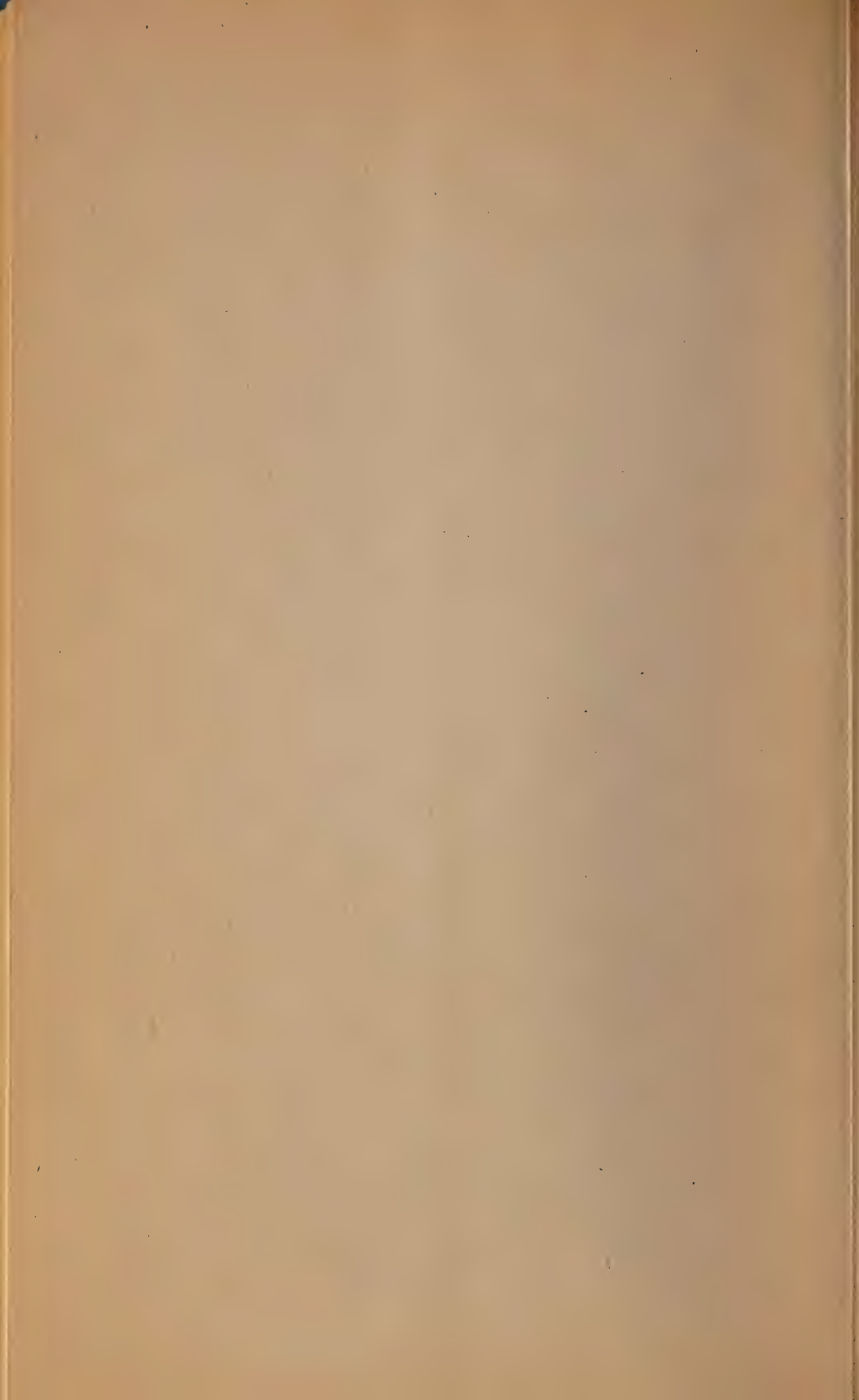
Vol. XVIII

No. 3

OCTOBER, 1915

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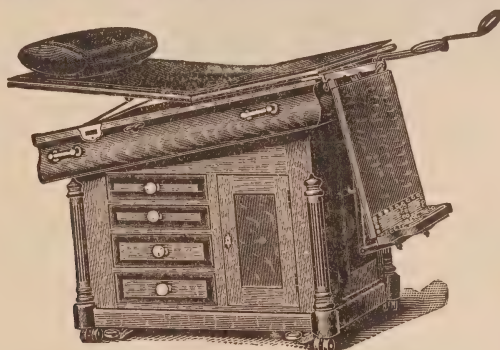
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---

THE BLOOD-PRESSURE DURING PREGNANCY.

BASED ON OBSERVATIONS ON 450 CASES FROM THE RECORDS OF  
THE COMMITTEE IN CHARGE OF THE PRENATAL WORK  
CARRIED ON BY THE WOMEN'S MUNICIPAL  
LEAGUE OF BOSTON.\*

BY FRANKLIN S. NEWELL, M. D., BOSTON.

The patients (450 in number) on whom this report is based were referred to the prenatal committee of the Women's Municipal League of Boston for care during pregnancy, either by institutions which have no facilities for prenatal work, although equipped to care for the labor and convalescence of their patients, or through the personal application for prenatal care made by the patient herself. The length of time that the patients were under observation varied from a few days to six months, according to the period of pregnancy which had been reached when the patient first sought prenatal care, and averaged about two months or a little longer. As long as no abnormal symptoms developed the patients remained under the observation of the prenatal committee, but the care during labor was provided by the institution referring the patient or by the patient's private physician, and all abnormalities discovered during pregnancy were immediately reported to the medical adviser, the prenatal work being confined to close observation of the patient's condition and such advice as is suitable for a nurse to give.

The routine of the work is as follows: As soon as a patient is referred to the prenatal committee for care she is visited at her home by the nurse, who gives her practical advice, suited to her circumstances, in regard to the hygiene of pregnancy, diet, clothing, exercise, etc., takes the blood-

\* Read at the Fifth Annual Meeting of the American Association for the Study and Prevention of Infant Mortality, Boston, November, 1914.



pressure and examines a specimen of urine for albumin. This visit is repeated at ten day intervals, or oftener in doubtful cases, until the time of labor. All abnormalities are reported at once to the proper persons, so that in case of need the patient shall receive more adequate attention. This system is not, perhaps, ideal, since for the most satisfactory results the clinic in charge of the prenatal work should be in a position to provide adequate care for the abnormal cases which it meets, and there should be no division of responsibility, as inevitably occurs under this system, but it certainly results in giving these patients much closer observation than they would ordinarily receive.

This report is based on the records of blood-pressure thus obtained and is made with the feeling that although it shows nothing of startling interest, it will prove of value, even though the facts which it develops only serve to corroborate the work of previous observers. It has been recognized for some years that the estimation of the blood-pressure during pregnancy furnishes evidence of considerable value in determining the condition of a patient during pregnancy, an abnormally low pressure suggesting that the patient is likely to react unduly to the strain of labor and should be saved all avoidable shock and suffering, while a high pressure is not infrequently the initial symptom of a toxemia and should call for increased watchfulness on the part of the attending physician, even though no other abnormal symptoms are to be discovered on a thorough investigation. The average blood-pressure during pregnancy is commonly stated as 118, and it is also commonly stated that the pressure tends to rise toward the end of pregnancy in perfectly normal patients, a statement which in this series appears to be true for only a limited number of patients. The normal variations of the blood-pressure may be considered as from 100 to 130, and although the observations in this series are too infrequent to show what transitory changes may occur in the normal patient, only one patient in whom the pressure remained within these limits developed any abnormal symptoms. This patient developed postpartum eclampsia and had several convulsions, but made a good recovery. In this case the last visit of the nurse had been made eight days before delivery, and the blood-pressure had presumably not been taken during or immediately after labor so that we have no information as to the development of the toxemia, but in all probability a toxemia of low grade was brought into prominence by the exhaustion of labor. A closer observation of the patient before labor might

or might not show the impending danger in such a case, but such an occurrence suggests that the pressure should be estimated in all cases during labor and soon afterward as well as during pregnancy.

If the blood-pressure remains persistently under 100 it is fair to assume that the patient's general condition is below par, and steps should be taken to improve it. At the time of labor the patient should be watched carefully and guarded as far as possible against exhaustion, since the patient with an unduly low pressure not infrequently develops shock and collapse to a marked degree following labor. If the pressure is over 130 the patient should be kept under close observation even in the absence of other symptoms, and a rising pressure should receive most careful attention. A pressure of 150 has been commonly called the danger line, but a persistent rise of pressure from a low point, even though it may never reach the arbitrary danger line, calls for most careful attention.

Of the 450 cases, 421 patients showed a blood-pressure that at no time was either below 90 or above 130; in other words the 421 patients showed what can be properly classed as absolutely normal blood-pressures. Of these 421 patients, 78 at some time during the pregnancy showed a pressure slightly below the normal, ranging somewhere about 90 and 100. In none of these patients, however, was the low blood-pressure persistent, it only being noted on one or two examinations, and in no instance did any uncomfortable symptoms develop in labor afterward referable to the low pressure, showing, therefore, that a temporary low blood-pressure is of no significance during pregnancy. Of these 421 patients, only the above mentioned patient who had postpartum eclampsia had any uncomfortable symptoms. The remaining twenty-nine patients showed at some time during their pregnancy a pressure which was above the normal limits, that is, above 130. There were four patients who ran a constant pressure of 140 at each examination and one patient who ran a constant pressure of 145 through the pregnancy. In none of these patients did any trouble occur, and the high pressure seems to have been due to other conditions rather than to changes taking place during pregnancy. In the remaining twenty-four patients the blood-pressure showed marked variations, running as high in one instance as 195. This patient developed eclampsia in spite of treatment, and there were several other patients in whom threatening symptoms developed, but in whom the conditions yielded to treatment.

In the 450 cases the examination of the urine showed albumin persistently or temporarily fifty times. Eleven of the fifty patients who showed either transient or persistent albuminuria also showed a blood-pressure of over 130, and every case of toxemia, except the postpartum one mentioned, developed among these patients. The rise in blood-pressure preceded the finding of the albumin in every instance except one, suggesting definitely the fact that a rise in blood-pressure is apt to be followed by albuminuria and other symptoms of toxemia, and that a high blood-pressure plus albuminuria are symptoms which call for immediate attention. The recognition of the high blood-pressure plus albuminuria was immediately followed by proper treatment, which was successful with one exception in checking the process before it became serious, showing the value of frequent observation of the patient during pregnancy. The occurrence of albuminuria in more than one-third of the patients who show an abnormally high blood-pressure as compared with its occurrence in less than 10 per cent of the patients who did not show a high blood-pressure, is definite proof of the value of the estimation of the blood-pressure during pregnancy.

The fact that in 421 of the 450 cases the blood-pressure was within normal limits and that in only one of these patients did any sign of toxemia occur, certainly tends to show that as long as the blood-pressure remains normal the presence of slight traces of albumin in the urine (which were noted in 39 of the 421) is negligible.

I have attempted to tabulate the observations in this series with the object of learning if possible, whether any particular group of cases showed constant variations in blood-pressure, either within the normal limits or not.

*Race.*—The patients in the series were of many different nationalities as follows:

American .....	159	Russian .....	16
Jewish .....	81	Scotch .....	12
Canadian .....	47	Swedish .....	7
Irish .....	43	Italian .....	7
English .....	20	German .....	6
Colored .....	19		

The remainder were either divided in small numbers among many different races or the nationality was not given. The examination of the records shows, as would be expected, that there are no characteristic variations in blood-pressure in the different nations.

*Age of Patients.*—The patients ranged from 16 to 45 years of age. Sixty-seven were under 20 years of age; 271 between 20 and 30; 80 between 30 and 40, and 7 were over 40. The age of 15 patients is not given. In line with the fact that the blood-pressure is apt to be considerably elevated in persons of above 50 years of age in whom arterial changes are common, it seemed fair to expect that a rise in arterial tension might be expected in the women in the latter part of the child-bearing period. Contrary to expectations there was no such tendency evident on examination of the records. On the contrary, in the one case of eclampsia which occurred during pregnancy the patient was only 18 years old. It is, therefore, fair to assume that in women during the child-bearing period a high blood-pressure is due to some individual peculiarity or disease and is not to be expected. The more or less constant rise in pressure which is observed in later life seems, therefore, to begin at or after the menopause and is evident during the child-bearing period.

*Number of Pregnancies.*—In this series there were 218 primi-paræ; 99 II-paræ; 46 III-paræ; 34 IV-paræ; 17 V-paræ; 9 each VI-, VII- and VIII-paræ; 5 IX-paræ, and 4 who had had ten or more pregnancies. It might well be expected that the increased strain thrown on the whole organism by repeated pregnancies would be reflected by a rise in pressure to a greater or less degree, but the observations made on these patients show no constant change, two of the three women in their twelfth pregnancy having a blood-pressure of 120 or less throughout. In studying the series as a whole, however, it would seem that after the second pregnancy there is a slight tendency upward in the pressures. This tendency is not sufficiently marked to be significant. The average in the seventh pregnancy as compared with the first is between five and ten points higher. In other words, it would seem that repeated pregnancies, in the absence of complications, have little or no effect in producing an increase in arterial tension, and that in the absence of complications a normal pressure is to be expected in a pregnant woman irrespective of her age or the number of the pregnancy.

*Relation Between Albuminuria and High Blood-Pressure.*—The urine was examined for albumin in conjunction with the estimation of the blood-pressure. The specimens examined, however, were not catheter specimens, and, as is well known, albumin is found much more frequently in non-catheter specimens, some observers placing it as high as 40 per cent.



In this series 50, or about 11 per cent, showed albumin at one or more examinations, an extremely low percentage, but since the urine was only examined by an expert when large traces of albumin were present or when other symptoms developed, it seems probable that small traces may have been overlooked, and the percentage really may have been considerably higher. In 37 of the 50 cases the albumin was found at one examination only and the blood-pressure showed no change, nor did other symptoms develop. In 2 cases the albuminuria was more persistent but no other symptoms developed. In 11 cases the presence of albumin was accompanied by a rise of blood-pressure to over 130, in 5 of which patients the albumin disappeared and the pressure dropped as soon as appropriate treatment was instituted.

In the six others the albumin and high pressure persisted until after delivery. Four of these patients also developed other definite symptoms of toxemia, but spontaneous labor ensued, with relief before the more serious symptoms developed. In one patient only did convulsions occur and this patient made a good recovery on being delivered. This patient had a persistently high pressure for the six weeks she was under observation, but the albumin did not appear till eight days before delivery, from which time it increased rapidly in amount, the blood-pressure rising to 195 shortly before the convulsions developed.

Another patient had a blood-pressure of from 150 to 180 for a month before delivery, with a slight amount of albumin constantly present. She did not develop convulsions, but gave birth to feeble twins at seven months, one of which lived only a few hours. One patient referred to previously had postpartum convulsions, no abnormality having been noted during the four and one-half months she was under observation. Six patients ran a persistently high pressure of between 135 and 145, but at no time showed any other symptoms and were delivered safely. With one exception all of the patients who developed toxic symptoms showed a rising blood-pressure as the first symptom, but in one case the appearance of albumin preceded the rise in pressure. Although the number of cases is too small to form the basis of any definite conclusions this would point to the conclusion that a rise in blood-pressure even in the absence of other symptoms should receive serious consideration as possibly being the initial symptom of an impending toxemia.

*Results.*—In the 450 cases there were four maternal deaths following

delivery. One patient died of pneumonia; one of hemorrhage from placenta prævia; one of heart disease, and one of septic infection. Neither the blood-pressure nor urinary examination showed anything abnormal in any of these women.

There were nine still births in the series. Four were due to difficult operative delivery; two to placenta prævia, and one each to premature detachment of the placenta, congenital syphilis, and fetal monstrosity. In each case the pregnancy was normal as far as shown by the urine and blood-pressure.

There were four premature births, and three of the babies died, one at 7 and two at 8 months. In two of these cases the mother showed an abnormally high blood-pressure, one of the patients developing a definite toxemia, though without convulsions, the maternal condition accounting directly for the death of the child.

#### CONCLUSIONS.

The study of the records of these cases shows definitely that a considerable number of patients have a temporary rise in blood-pressure during pregnancy without the development of other symptoms, as is found in patients under other conditions. The significance of this rise in blood-pressure can only be ascertained by a frequent study of the blood-pressure in a large number of cases. In other cases the rise in blood-pressure was followed by the appearance of albumin, a combination of which has been shown to be a definite indication of the development of toxemia. In only one case, however, did convulsions develop, the other cases yielding to treatment. Thirty-nine cases showed slight traces of albumin in the urine, but no changes in the blood-pressure. As the urine was not obtained by catheter, the source of the albumin is unknown, but in the majority of the cases it was probably due to contamination of the urine by leukorrheal discharge. To judge from these cases, the presence of a slight amount of albumin, if not accompanied by a rise in blood-pressure, is negligible. Eleven patients showed albumin with a high blood-pressure, all of these being presumably more or less toxic. Five patients showed a blood-pressure of 140 or over throughout the period during which they were under observation. Only one of these patients developed albumin at any time during the pregnancy and all passed through labor normally, which would tend to prove that persistent high blood-pressure, in the absence of other signs, is not necessarily a dangerous

symptom, although it should always arouse suspicion and call for increased watchfulness, whereas, as was shown in other cases in this series, a rise in blood-pressure from a low point is not infrequently followed by the appearance of albumin and the development of symptoms of toxemia, and is more significant than a high pressure throughout.

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### PROLAPSED OVARIES.

By DR. WILLIAM SISSON GARDNER.

Prolapsed ovaries associated with retrodisplacements of the uterus are quite common, prolapsed ovaries which give rise to symptoms and are not associated with other gross lesions are much less frequently seen, but are not rare. For several years I have been impressed both with the importance of this lesion and with the fact that very little attention is being paid to it. As my experience has increased I have become more fully confirmed in my opinion that the lesion is one worthy of careful consideration.

The profession at large hardly takes notice of the condition. Some of the more painstaking of the internists have recognized it as the cause of reflex nervous disturbances which cannot be relieved without its correction. Many gynecologists, who ought to be familiar with the symptoms produced by it and the method of relieving them, either entirely overlook the offending organ or fail to recognize in it the cause of the trouble; or, recognizing it, content themselves by attempting to relieve the symptoms by the use of tampons or pessaries. To the general surgeon the matter is too small for consideration, and the patient is passed on as a nervous, hysterical or neurasthenic woman. And this state of affairs exists in spite of the fact that the train of symptoms produced is so clear that the hospital interne who has had his attention directed to a few of these cases can make a snap diagnosis in a vast majority of instances from the history alone.

As was stated in the first paragraph of this paper, the greater number of prolapsed ovaries is found associated with retrodisplacements of the uterus, and I am convinced that a considerable proportion of the failures to relieve these patients is due to the directing of the entire attention to the replacement of the uterus and neglecting the ovaries. It is to emphasize the fact, which I believe to be true, that prolapsed ovaries produce

a train of symptoms which can be relieved only by the suspension of the offending organs, that these cases are reported. To make the presentation as plain as possible the records of all patients who had any marked pelvic lesion, except prolapsed ovaries, have been eliminated.

In this restricted class I have the records of eighteen cases that I have operated upon. Ten of these eighteen I have been able to trace, and nine out of the ten report that either they have been relieved completely, or very much improved. The one case that was not helped was one in which a uterine suspension should probably have been done, although at the time of the operation the uterus was not displaced.

The following brief notes on a part of these cases will illustrate the symptoms and results of treatment:

No. 2058 was admitted to Mercy Hospital, July 24, 1911. Age 28, married, no children, one miscarriage in 1910. The last menstrual period was July 1. The flow usually continued for four days and was always associated with great pain. The pain began three or four days before the flow, continued during the whole period and usually for a few days after the flow ceased. It was of a very severe character and has recurred each month since she began to menstruate. It began in the lower part of the abdomen, was shooting in character and recurred several times daily. There was also a dull pain in both sides of the pelvis almost continuously, which was very much increased at the menstrual periods. Much backache and both frontal and occipital headaches were present and usually most marked just before the cessation of the flow. Defecation was painful, the pain continuing for some time after the rectum was emptied.

On physical examination both ovaries were found prolapsed, the left one enlarged and lying directly on the rectum.

At operation both ovaries were resected and suspended.

Writing under date of February 4, 1914, this patient states that she has been entirely relieved of her pain and that since the operation she has had one child, which is now 18 months old.

No. 1473 was admitted to Mercy Hospital, June 13, 1909. Age 33, single. About five years ago she began to complain of anorexia, insomnia a general tired-out feeling and great nervousness. For more than four years before coming to Mercy Hospital she had been under treatment in sanatoria at various places. Notwithstanding the rest cure and other treatment, the symptoms persisted, and during the past year have become worse. Of



late she has complained of occipital headache and a dull pain in the pelvis. She has worried over every little trifle, claimed that she was crazy and that nothing was going to do her any good. The latest complaint was of sleeplessness and dreams. In January of this year, at the time of the menstrual period, she had an attack of acute mania that lasted about two weeks. After this attack she improved, but was still nervous and complained of a pain in her right side. At the following menstrual periods there was an exacerbation of the nervous symptoms, the disturbance at the May period being particularly marked. There was pain on defecation.

On physical examination the uterus was found in good position, but there was a slight erosion of the cervix. Both ovaries were prolapsed.

On June 14 the uterus was dilated and curetted. One ovary was suspended and one removed. The ovary removed was not enlarged, but sclerotic.

Writing under the date of February 12, 1914, she says: "The operation I consider a success, as I am physically better than I have ever been and my nervous condition is much improved. I weigh 120 pounds, sleep very well and have a good appetite. I am able to keep house for my father and enjoy social pleasures as well. I have no physician, having spent only one day in bed since leaving Mercy Hospital four and half years ago."

No. 2169 was admitted to Mercy Hospital, January 6, 1912. Age 19, single. The last menstrual period was December 23, 1911. The menses were very irregular and accompanied by severe pain, which came on several days before the flow and continued during the entire period. Severe headaches, sometimes frontal and sometimes occipital, came on just before menstruation. During the past year she had repeated epileptiform attacks. Two of these seizures occurred near her last menstrual period, and they became so frequent and so severe that she was unable to attend to any duties.

On bimanual examination both ovaries were found prolapsed.

At operation, January 10, both ovaries were suspended and a small parovarian cyst was removed.

More than two years after the operation she wrote: "Since leaving the hospital I feel much better and am able to work."

No. 1490 was admitted to Mercy Hospital, June 25, 1909. Married, one child, no miscarriage. Last menstrual period June 5; flowed eight days; very little pain at that time. For four years she has had severe

occipital headaches, a bearing down and pressure in the pelvis, some back-ache and intense pain on defecation.

On physical examination the right ovary was found prolapsed.

At operation, June 25, cysts in the right ovary were opened, varicose veins in both broad ligaments ligated and both ovaries suspended.

She reported in person February 4, 1914, and stated that she had been entirely free from the occipital headaches, and that the pelvic pressure and painful defecation had been entirely relieved.

No. 776 was admitted to Mercy Hospital, July 30, 1906. Age 33, married, one child and one three-months miscarriage; menstrual history negative.

She stated that for the past twelve years, when walking, she has had a severe pelvic pain, and that two weeks after each menstrual period she has had an attack of pelvic pain of great intensity which passed off in a few hours. One week ago she had an attack of this character, but of greater intensity than usual, and since then there had remained some tenderness over the abdomen.

On physical examination both ovaries were found enlarged and prolapsed.

At the operation, July 31, the cysts in both ovaries were incised and the ovaries suspended.

Writing under the date of February 8, 1914, she says: "I am having excellent health, and have had ever since my recovery from the operation."

*Pathology.*—Nearly all prolapsed ovaries are enlarged. This increase in size may be due to neoplasms, Graafian follicle cysts, or simple hypertrophy. Both of the latter conditions are apparently brought about by the passive congestion due to the dependent position of the ovary. There is no doubt, however, that in at least a part of the cases the enlargement is the cause and not the result of the prolapse. The elongation of the ovarian ligament which allows the displacement may be congenital or may be due to the drag of the heavy ovary. In exceptional instances the small, painful, sclerotic ovary is found.

*Symptoms.*—One of the most striking symptoms present in these cases is the characteristic dysmenorrhea. The severe pain begins from two to ten days before the flow, usually continues though somewhat diminished in intensity throughout the flow, and for a few days after the flow ceases. The pain is not rhythmical, as it is in the cases of stenosis of the cervix,

but is continuous with severe exacerbations. Associated very closely with the pelvic pain, in a large proportion of the cases, is a pain in the back and very commonly a severe occipital headache. In some instances this headache is the only marked symptom. The pelvic pain frequently radiates down the legs and is very much increased by the patient being on her feet. In some cases where the ovary has become considerably enlarged, much walking becomes impossible.

A paroxysmal intermenstrual pain is a symptom that occurs in a part of these cases. This pain comes on from two to fourteen days before or after each menstruation, varying in different individuals, but the period of recurrence in relation to the time of the flow in each case is constant.

Nearly all of these patients are extremely nervous and many of them are classed as hysterical. In a small proportion of instances they have the so-called hysterical convulsions. While convulsions are not common, irritability of temper, great excitability and other indications of an unstable nervous system are as a rule present. The nervous symptoms manifest themselves in some cases only during the period of a week or ten days before the beginning of menstruation; but in all cases they are very much exaggerated during this time.

Some patients complain of nausea, which is most marked just before the menstrual period. When the left ovary is prolapsed and rests upon the rectum, painful defecation is common. Under these circumstances the pain continues for some minutes after the rectum is emptied.

*Diagnosis.*—The diagnosis is usually made without any difficulty. The pelvic pain, the occipital headache, the increase of the nervous phenomena, one or all, coming on regularly in each menstrual cycle during the week just preceding the flow, point to the ovaries as the source of the disturbance. On bimanual examination the prolapsed ovary can be felt in the culdesac directly behind the uterus, or it can be caught between the finger in the vagina and the pelvic wall. It can be recognized by its tenderness on slight pressure, by its shape and by its tendency to slip away from the point of pressure.

*Treatment.*—Many forms of treatment such as tampons, pessaries and the administration of drugs have been tried for the relief of the symptoms due to this lesion, but all have failed. The symptoms being caused by a physical defect can be relieved only by correcting the defect.

When the ovaries are enlarged either from hypertrophy or from cystic

degeneration, they should be resected to decrease their weight. The elongated ovarian ligament is then shortened by a couple of silk or chromic catgut stitches. The first stitch is inserted into the body of the uterus near the lower border of the utero-ovarian ligament. It is continued along the lower border of the ligament, picking it up in several places, and finally a firm hold is taken into the ligament near the ovary. The second stitch is placed in the same way, but nearer to, and parallel with, the upper border of the ligament. The tying of these stitches brings the ovary close up to the horn of the uterus. The ovary retains a limited mobility independent of the uterus, and a complete mobility with the uterus.

When a prolapsed ovary is associated with a retrodisplacement of the uterus, after the ovarian ligament is shortened, the operation of choice for the correction of the displacement of the uterus can be done.

6 W. PRESTON STREET.

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## THE RELATION OF THE MEDICAL PROFESSION TO ACCIDENT INSURANCE.\*

By W. EDWARD MAGRUDER, M. D., BALTIMORE, MD.

For many years the direct connection between the medical profession and life insurance has been recognized—whether the physician be medical director of an insurance company, a local medical examiner, or is himself a policyholder.

Accident and health insurance, however, have acquired their great popularity largely during the past few years and the rapidity of the growth of this business has been most phenomenal.

When we realize that this form of insurance protection was practically unknown in this country until the early 60's, when the total premiums received by the companies then operating were but a few thousand dollars per year, and the net premiums paid by policyholders for accident and health insurance in 1912 in the United States reached nearly forty million dollars, it must be apparent to us that the time has come when physicians must consider this branch of the business as deserving of recognition.

In this age of high pressure living, when things formerly thought luxuries have become necessary to our very existence and the high cost

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of living is bearing so hard upon us, the protection of incomes against their possible loss or curtailment through illness or accident becomes a necessary part of the system. In fact, the growth of short-term insurance in all of its forms has been the direct result of the needs of the times and its economic aspect cannot fail to be appreciated by anyone who gives the matter consideration. How often the insurance policy comes to the rescue of men from improvidence and their widows and children from positive want! How often it pays physicians for their services when otherwise their compensation would not be possible! How often it serves persons by enabling them to retain their self-respect, and how much better citizens they become thereby!

Personal accident and health insurance, like that of insurance for life, has assumed two general forms—the industrial, which supplies the needs of the wage-earner who pays for it by the month or week—and the commercial or ordinary, which protects the business or professional man, who pays his premiums once, twice or four times each year. This form of insurance is based upon a contract or policy agreed upon by and existing between the company or insurer, on the one part, and the policyholder, or insured, on the other. No medical examination is required as a condition precedent to the purchase of accident and health protection, but the statements made by the applicant in his application become part of the contract. The applicant, on his part, furnishes to the insuring company an application, the statements in which he guarantees to be true and agrees to pay the required premium provided the application is approved by the company, and in return for which he receives a policy contract in which the company agrees to assume the liability as set forth in its several provisions.

The evolution of the accident and health business has been characterized by many circumstances which have influenced its development. The very nature of the business made its beginning experimental. The large number of occupations each carrying its own hazard and the necessary adjustment of premium rates to suit these varied classifications of risks has not been made without the infliction of many hardships upon the insuring public. The collection and handling of large sums of money by insurance companies, the greed of officers and stockholders for their own financial gain, and the many temptations which have resulted from the desire of promoters to sell stock and secure large returns for the capital and labor

expended, have many times worked injustice where justice should have prevailed. Fortunately, the time has come when, through rivalry between the different companies, they have been forced to construct and sell extremely liberal policies, and the enactment of laws in the several states has thrown around these companies safeguards which are protecting not only the public but the legitimately conducted insurance companies as well. The large number of companies now operating upon honest business lines indicates a future for the accident insurance business when it will become recognized as one of the benevolent institutions necessary to our industrial growth and one which promotes the welfare of the community as a whole.

In addition to the conditions which have assisted in the development of the business along liberal lines, the tendency has been toward simplification and unification of the policy forms issued by the several companies until, finally, the policies issued by the reputable companies are in simple language and their meaning is so well defined that litigation is now seldom required as a means to their correct interpretation. Aside from the requirements which have been forced upon them, the companies themselves have come to realize that clean, honest business methods form the only safe foundation for their continued existence.

It is not my intention to dwell upon the many errors which crept into the insurance business during its evolution and which led to frequent lawsuits, to general investigations by committees and to subsequent exposures—first, of the maladministration of life insurance companies, and subsequently of the unjust and unwarranted methods of claim settlements once practiced by some of the companies engaged in accident business. It is, however, my purpose to call your attention to the ultimate good such upheavals have worked, and to four distinct ways in which the medical profession is directly concerned in the growth and healthy development of accident insurance.

1. Physicians may be medical examiners for accident companies.
  2. They may be attending physicians to persons who are insured in accident companies.
  3. They may be interested in the valuable statistics which accident companies will ultimately contribute to the field of preventive medicine.
  4. Physicians may themselves be policyholders in accident companies.
- From the standpoint of medical examinations for accident companies,

the profession is distinctly concerned. Although no examination is now required of applicants when they secure their policies, many thousands of dollars are spent annually by accident companies in fees to physicians who examine and make estimates of the extent of injuries or the severity of illnesses which may have been suffered by their policyholders. The frequency with which companies will call upon examiners in future to make medical investigations and report truthfully upon the facts and circumstances relating to the disabilities of policyholders, will be greatly increased for several apparent reasons. In this age companies are compelled, not only to pay their legitimate claims, but to be able to show by conclusive evidence in the shape of papers in their claim files, that they are fully justified in any final action they may have taken. It will be upon their medical examiners that part of the future burden will be thrown and largely upon their reports will definite decisions be made. The importance to accident companies of physicians who are capable examiners and are at the same time able to correctly estimate the duration of the disability and to report it with equal fairness to the company and the claimant can scarcely be estimated, but the damage resulting from careless and partisan reports of examinations made by incompetent examiners can easily be imagined.

There is a growing tendency, which is rapidly taking shape, for several accident companies to unite in a given locality upon one examiner who may have proven himself competent, rather than distribute their examinations among a number, and the fees paid for work of capable examiners are growing in direct proportion to the quality of the service which they can render. The realization on the part of the accident companies that the employment of physicians to fill the positions of home office medical directors and local examiners is even more essential to their very existence than life companies have previously found it, will guarantee to members of the medical profession much future financial gain.

The examiner for accident companies in health or accident claims has many advantages over the examiner for life insurance. Instead of having his appointments made for him by the insurance agent or at the convenience of the applicant who has reluctantly consented to become insured, the accident examiner meets a very different condition of affairs. He not only has the right to make the examination as part of the agreement made in the policy between the policyholder and the accident company,



but he usually finds the claimant most ready and willing to lend himself to such examinations, and instead of experiencing difficulty in locating him, the illness or injury restricts the patient's movements and further causes him to be available. That such examinations can usually be made just as well a day or two later than that upon which requests for them are received from the company is another advantage to the examiner, who can thus make them at times convenient to himself and often in connection with other neighboring work, and he can, therefore, handle such work without sacrifice to his private practice.

It is needless to say that the success of an examiner depends upon his tact and honesty quite as much as upon his medical knowledge, for, if he is not tactful and fair in the conduct of his investigations, obstacles will be placed in his way and material facts purposely withheld from him.

As attending physicians of patients insured under accident and health policies, the members of the medical profession are in almost daily contact with the accident insurance business. Each policyholder, in order that he may comply with the conditions in his contract and avail himself of any indemnities to which he may be entitled, is compelled to furnish one or more statements from his family doctor upon blanks furnished by the insurance company. Upon the preliminary reports the company is guided in their estimate of the amount of money they must set aside in advance as a reserve in accordance with the law, for the payment of any indemnity which may subsequently become due, while upon the later reports of the attending physician, and such other information as may be secured from the claimant, from the agent, from the company's examiner, or through their confidential inspection service, the final action of the company is taken and payment is made upon the facts as they apply to the insurance contract held by the policyholder. The role of the attending physician is not always a pleasant one in these cases, for it is often incumbent upon him to reveal facts in the claim blanks which prove that the condition for which indemnity is claimed is either not covered at all, or the amount actually due under the contract is less than that to which the patient desires his doctor to help him make claim, or the blank reveals facts previously withheld by the assured which, if they had been stated by him in his application, would have prevented the issuance of the policy or have led to limitations in its provisions. The physician is often in a position where he has to decide whether he will answer the questions fully and truthfully and



possibly incur the displeasure of his patient, or whether he will give evasive answers in the claim blank and thus allow the company to guess at the true facts and, perhaps, guess wrong. Fortunately, even though the blanks received by accident companies from the attending physicians of their policyholders, are often full of inaccuracies and may contain no single statement upon which an opinion can be formed, these same attending physicians will seldom fail to admit and subscribe to the true facts if questions showing knowledge of these facts are placed squarely before them. A better knowledge of accident and health insurance in its modern, simplified form on the part of the medical profession is rapidly coming to the relief of this situation and, as a result, physicians are demanding from the companies a square deal for their policyholders and at the same time are refusing to lend their support in the collection of any claims which the contract and the true facts in the case show no liability. The influence which can be exerted by the medical profession in educating the public to deal squarely with corporations and to be satisfied with just treatment at their hands is greater than we probably realize, and this, coupled with an impartial investigation by the family physician, into any transaction which appears irregular, and the reporting of wildcat companies and dishonest methods and agents, wherever discovered, to the proper authorities, will do more than anything else in placing the accident insurance business in a position where justice may be done to all.

Can we afford to avoid this responsibility and thus delay longer our help in placing this business in a position where it will work the greatest good to the greatest numbers? The opportunity is vested in the medical profession and we alone can bring about the "square deal" to all.

From the standpoint of preventive medicine the business of accident and health insurance is going to prove of great interest. Statistics relating to the recurrent diseases and diseases and injuries in their relation to occupation, locality and special conditions are being collected by accident companies and will determine with greater accuracy than has been previously possible many facts of interest to the whole field of medicine and bring the accident companies into closer relation with the community at large.

From the standpoint of being themselves policyholders in accident companies, physicians are vitally interested. As physicians, all the provision we can make for our loved ones and our homes depends entirely

upon our own personal efforts, so we, more than many others, are obliged to insure against loss of life or incapacity for work through unexpected occurrences. Septic infections, automobile injuries and the various dangers to which we are daily exposed must be insured against, and we are, therefore, dependent upon accident insurance companies to protect us against part of the loss such contingencies may produce. In justice to ourselves and those dependent upon us, it is incumbent upon us to see that our interests as policyholders are properly protected.

We can assist in bringing about this result in the following ways:

1. By using our influence to the end that the companies operating in our several states are properly supervised, not unjustly taxed, are carefully administered and are honestly represented.

2. By endeavoring to prevent fraudulent claims or imposition upon insurance companies through the ignorance of the true conditions or cupidity on the part of our patients who are policyholders, we can assist in reducing the number of unintended losses to accident companies, and, as a result, enable them to sell insurance protection at a much smaller cost.

3. It is our duty to ourselves and our families to immediately inspect our own policies and determine whether the statements in our part of the contract are true and the policy therefore valid, or whether, through carelessness or delegation of the matter to local insurance agents, our applications contain incorrect statements which may reduce the value of or render absolutely worthless our own insurance policies.

924 MADISON AVENUE.

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### SOME PHASES OF THE TONSIL QUESTION.\*

BY FRANK DYER SANGER, M. D., BALTIMORE, MD.

For nearly two decades I have been trying to cope with the various affections of the tonsil. It may be truthfully said that during that period scarcely one fact has been added to our knowledge of the physiology of this structure. Indeed our ignorance regarding the function or functions of the tonsil is constantly becoming more evident, because of the increase of our knowledge regarding the functions of many of the other organs of the body, and because in twenty years the functions of some of our organs previously unknown have been revealed.

\* Read in Section on Ophthalmology, Rhinology, Otology and Laryngology, Southern Medical Association, Eighth Annual Meeting, Richmond, Va., November, 9-12, 1914. Reprint from *The Southern Medical Journal*, August, 1915.

It is natural that in the absence of any certain knowledge of the function of the tonsil, a great deal of speculation regarding it should have been indulged in. It is also probable that our ignorance of the function of the tonsil has made us more prone to hold the tonsil responsible for a great number of pathological conditions in various parts of the body, particularly during this period of very active study of the phenomena of infection and immunity, and of the internal secretions. Much of this work has been speculative, for while there is good ground for the belief that infectious processes in various parts of the body are related more or less closely to the tonsil infections, in too many instances the conclusions have been based upon inference, rather than upon actual demonstration.

Indeed the tonsil has suffered so much from inference and insinuation, and aspersion, that a great wave of annihilation has overtaken it. It has been possible to hold the tonsil responsible for almost anything occurring in the body, as a stranger in a community might be held responsible for any disturbance in that community. No one rushes to his defense because no one knows his purpose, or is able to account for his presence, and so he is driven out.

It is true that there *are* those who have spoken in defense of the tonsil, eloquently and persuasively, but with the persuasion of speculation rather than of fact. In so far as such defense deals with individuals, it, of course, fails to elucidate the question, but throws interesting sidelights upon the personnel of those who labor in the field. Nor can such defense be taken seriously, unless it carries such conviction regarding its sincerity as to absolve it from the suspicion that it is merely an explanation of a too obvious lack of consonance with the thought of the time.

It is not pertinent to say that tonsil enucleation is being overdone simply because it is done a great deal. The great deal may or may not accurately measure the necessity of the situation. To say that it is done without judgment; that it is badly done; that it is done in a dangerous manner; that methods of doing it are adopted that do not conform to the surgical requirements of the case; that it is undertaken by men not properly equipped to cope with the emergencies which arise, is to repeat what might be said of many another surgical procedure. It is not showing cause why tonsil enucleation should not be undertaken by men surgically trained when conditions in or about the tonsil menace the life, or health, of the

individual. It is this phase of the question to which I invite your attention at this time.

The position of the laryngologist in his attitude toward the tonsil is not dissimilar from that of the surgeon who deals with the appendix. The abdominal surgeon is constantly subjected to the criticism that the appendix is removed too often, and for insufficient cause. He is menaced by the same ogre of possible useful function. Fortunately for his reputation and his peace of mind the danger in the case of the appendix is more immediate and somewhat more imperative than in the case of the tonsil. The knowledge of this danger sustains and encourages him in his work. While the laryngologist, confronted by questions not so proximate, yet none the less menacing, sometimes to life, more often to health, must compensate in the courage of his conviction, the stimulus which to the general surgeon comes from the knowledge that a given operation done at the moment may actually save life.

The attitude of the general surgeon toward the appendix between attacks is more nearly parallel to that of the laryngologist (who does not usually operate at a time when the tonsil is acutely inflamed), the main difference being that whereas the general surgeon's chief guide is the type, severity and frequency of the attacks of appendicitis, the laryngologist has, in addition to similar data, all the facts which he is able to ascertain regarding the disposition of the tonsil to infection, and its capacity to cope with infection, which he is able to obtain because of the greater accessibility of the tonsil. The laryngologist also has an opportunity more carefully to observe the less important disturbances of the tonsil, the minor attacks of appendicitis not being so frequently brought to the attention of the surgeon.

There is one vexatious question which the critics of tonsil surgery constantly raise, and which seems not to have entered into the discussion of surgery of the appendix. Whatever other differences exist regarding the technic of surgery of the appendix, it is generally agreed that if the appendix is to be removed, it should be entirely taken away, in spite of the fact that its physiology is unknown. On the other hand, the laryngologist is urged to spare a portion of the tonsil because so little is known regarding its physiology. Notwithstanding the fact that the operation for complete removal of the tonsil is a development in response to the general unsatisfactory results from the former methods, which, although



avowedly contemplating entire removal fell short of complete fulfillment, because the methods employed depended almost wholly upon a mechanical contrivance which, of course, took no cognizance of varying conditions in and about the tonsil, and, therefore, failed more often than it succeeded. For after all, the change which has taken place in the tonsil operation is perfection of method rather than a change of purpose. One of the most haphazard procedures of surgery has been supplanted by an operation which accomplishes what the other promised but did not fulfill.

One may dismiss such objections as that of hemorrhage, shock, sepsis, disturbed surroundings, troublesome cicatrices, and so on, are more apt to occur when the tonsil is completely removed than when a portion is left.

If an equally careful technic is employed in both instances, the complete removal is safer. Certainly hemorrhage is less apt to occur, not only at the time of operation, but secondarily, providing, of course, an appropriate method is employed. That the partially removed tonsil bleeds is almost axiomatic. Bleeding which occurs at the time of operation, or secondarily, after complete removal, except in the comparatively rare cases of hemophilia, must mean that the operator's conception of the surgical requirements of this particular area of the body is faulty, and that these requirements are not met by his procedure. Repeated hemorrhage experiences only add emphasis to this view. Since tonsil tissue invariably harbors infection, the wound from which all tonsil tissue has been removed must be safer than one in which a certain amount of injured tonsil tissue is allowed to remain.

Shock is apt to be greater if a method of dissection is adopted which prolongs the time required for the operation unnecessarily. Shock is indeed much more closely related to the time consideration than to the quantity of tissue removed, else we would be able to measure shock by the size of the tonsil, which we have not been able to do. The conservation of time in any surgical procedure from a shock standpoint conserves the patient. It is possible to dissect the tonsil completely, almost as quickly as to take away a portion, the difference in time not being sufficiently appreciable to increase shock. Injury to surrounding structures means faulty technic.

Apply the same series of objections to the appendix operation, supposing it to be done completely or incompletely, hemorrhage, sepsis, shock, adhe-

sions, etc., who will admit that the incomplete operation possesses any advantage?

The real question is, after all, the teleological question. We have become so accustomed to hearing the teleological question raised by our patients (among whom it seems to have a profound religious significance) that we have fallen into the habit of brushing it aside. Almost daily I am asked, "Did not God give us tonsils for some purpose? Is it not wrong to take them away?" When, however, the question is raised in the profession it is a challenge not so easily ignored.

Teleology is pre-Christian in its origin, having been a part of the teachings of the Greek philosophers hundreds of years before the Christian era. It remained for the most part a philosophical concept until Darwin, in 1859, announced his discovery of a mechanical cause actually existing and demonstrable, by which organic evolution must be brought about. It was Darwin's study of the adaptation of organic structures to the service of the organism in which they occur, that revived teleology, giving it for the first time a scientific foundation.

"The organs, the parts, the color and peculiarity of an organism must either be of benefit to the organism itself, or have been so to its ancestors." Whether the cells composing certain organs are of benefit to the organism itself, or have been so to its ancestors, is a subject to which the scientific world is devoting a great deal of attention at this time, and a great deal of evidence is accumulating to show that the organs which in the course of evolution have become unnecessary to the organism are not only not essential to the organism, but have become a menace to it.

The tendency of the tonsil to regenerate is interpreted by many to mean an effort on the part of nature to preserve it on account of its usefulness, and because this tendency is greatest in young life, it is thought to indicate the greater usefulness of the structure in young life. May not this tendency, on the other hand, point to the primitive character of the tonsil? Regeneration is a characteristic of the lower forms of life, and lessens as we ascend the scale.\*

\* Delefield and Prudden, 5th Edition, 1896, page 94: "The highly specialized cells of the body are limited in their capacity for reproduction closely to the domain of physiological regeneration.

"Specialized gland tissue while readily maintaining by cell proliferation its integrity under ordinary functional wear and tear, is incapable as a rule of proliferation of its specialty endowed cell of making good extensive losses of substance, either from injury or destructive pathological processes. . . . The

The tonsil's lack of resentment to injury is a peculiarity not shared by any of the actively functioning structures of the body. One can destroy by means of the actual cautery a large area in an hypertrophied, non-adherent tonsil (providing one does not in the least disturb the surrounding structures) without producing either local or general reactions of moment. On the other hand, infectious processes in the tonsil produce general reactions, as exemplified by high temperature and prostration, quite out of proportion to the extent of tissue involvement.

There is a growing tendency to class the tonsil as a vestigial structure. Its disposition to infection may not be a question of its location in a position of theoretically great exposure, but like other vestigial structures it shows a tendency to disease much greater than that of the actively functioning structures of the body.

On account of its liability to infection, and because of its importance as a portal of entry of infection into the body, the tonsil is a great menace, not only to health but to life.

A great deal has been said about the relation of adhesions to infection of the tonsil. There is indeed quite general agreement that adhesions constitute a factor of greater importance in infection than enlargement of the tonsil, and there has been much study of the causes of adhesions, that is to say, the more immediate causes, but there has been very little effort to give a wider interpretation to what is recognized as a common phenomenon which seems without parallel in the other organs of the body.

All encapsulated organs, the liver, the spleen, the kidney, and so on, show more or less uniform thickening of their capsule, when inflammation involves the periphery of the organ. The lymph glands, generally embedded in connective tissue, and having a definite fibrous capsule, show thickening of their capsule when chronic inflammation of the gland takes

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specialized gland cells, be it in the liver, kidney, salivary or other glands, or in the mucous membranes, under favorable conditions are apt to respond to an injury with destruction of tissue by proliferation, or, it may be, by the actual production of new gland tissue. But the new gland tissue thus produced is usually inconsiderable in amount, atypical in form, and often of questionable value. The liver and thyroid gland seem, however, to possess in an exceptional degree the power of regeneration. We thus see that though specialized cells in the body express, in the face of tissue injuries, distinct recuperative tendencies, they are not in general able to make good excessive losses of substance. This is usually done by the cells of a group of tissues more lowly in organization, but retaining largely the proliferative power of undifferentiated protoplasm, namely connective tissue."



place. When, however, the glands are subjacent to the epithelial surface, as in the post-pharynx, or in the intestinal mucosa, although fibrous changes may take place in their structure and beneath, no effort seems to be made to enclose the gland in such a way as to cut off its communication with the surface beneath which it resides.

The changes which take place around the tonsil when constant, or repeated inflammation occurs, show this peculiarity, that while there may be, and frequently is, thickening of the so-called capsule of the tonsil, binding it more firmly to the constrictor aponeurosis, adhesions extend forward quite beyond the usual capsule limit, as we have said above, encroaching upon the mesial aspect of the tonsil, sealing up one crypt mouth after another, until not infrequently all that is left is a cleft, having in its depths one or more crypt mouths which have successfully resisted interment.

While the picture is often not so extensive as this, even milder degrees of adhesions give one the impression of an effort on the part of nature to seal in the tonsil, as a tubercle or other foreign substance is encapsulated to protect the body from its consequences.

Viewed from the standpoint of infection, adhesions can only be regarded as favoring infection. In no possible way can they facilitate the part which the tonsil is supposed to play in local resistance. Their production in locations where previously they did not exist seems more analogous to the walling-in process which is witnessed about something inimical to the well being of the economy, all of which seems to argue distrust of tonsil beneficence, and, possibly, apprehension of tonsil harmfulness.

In this connection the following considerations are offered: (1) The tendency of the tonsil to regenerate harks back to tissues of a more primitive type, and is entirely out of consonance with the more highly organized tissues of the body, resembling more nearly the proliferative power of undifferentiated protoplasm; (2) failing to resent injury the tonsil presents a character peculiarly its own; (3) the tendency of the tonsil to infection exceeds that of any other organ of the body, and seems not to be wholly due to its exposed location. It strongly negatives the most commonly accepted assumption regarding its supposed function, *i. e.*, that it protects the economy against infection; (4) finally, the economy attempts to eliminate the tonsil by sealing it in, as it does a foreign substance which constitutes a menace.



The clinical history of the tonsil is as old as medicine, and becomes progressively more and more voluminous. Knowledge of the harm it does is abundant and universal. Its usefulness is purely problematical. Speculate as we will regarding its place in the economy, and its usefulness to the organism, no use has been demonstrated. We talk of its power to protect, and we have records only of its failure to protect. Voices are raised in protest against its complete removal, and naught develops as a result of its removal when properly accomplished, save benefit to the individual. There are few operations in the entire domain of surgery, except those which are directly life-saving, in which the beneficial results are more tangible and lasting. The removal of the tonsil marks an epoch in the lives of many individuals.

No recent development in clinical medicine is more important than that of the infectious sequences. What is particularly needed is a more connected record of the infections of the individual. When this shall have been accomplished, it is not impossible that an even larger load of responsibility for them will fall upon the tonsil. Tonsil surgery will then assume a position of greater dignity, and will be less frequently entrusted to men whose technical shortcomings add too much to the present uncertainty of results.

In the meantime, shall we not try to protect the health and life of those entrusted to us, by using the judgment we possess, to interpret the facts we have, rather than be guided by theories, however portentous? Is not this the more scientific attitude? If we are convinced that the clinical history of the tonsil spells danger to the individual, then let us measure that danger as accurately as we can. The removal of a tonsil without clinical history is a violation of all that makes for decency and common honesty. If we can show that the tonsil is a benefit to the organism, then let us conserve it in proportion to its usefulness. If we are unable to prove that it is of benefit to the individual, then let us protect the individual at the expense of tonsil structure.

Professor Schaefer, in his presidential address at the 1912 Dundee meeting of the British Association for the Advancement of Science, in speaking of vestigial structures, said: "Doubtless nature is doing her best to get rid of them for us, and our descendants will some day have ceased to possess a vermiform appendix, or a pharyngeal tonsil; until that epoch arrives we must rely for their removal on the more rapid methods of surgery."

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THE JOURNAL  
OF THE ALUMNI ASSOCIATION  
OF THE  
COLLEGE OF PHYSICIANS AND SURGEONS,  
BALTIMORE.

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THE COLLEGE SESSION OF 1915-16.

The 1915-16 session of the University of Maryland, School of Medicine and the College of Physicians and Surgeons opened October first.

As was stated in the catalogue issued during the summer the students of the first and second year classes will be taught by a single group of teachers. All of the work of the first year will be done at the College of Physicians and Surgeons and all of the work of the second year except three Saturday lectures will be done at the University of Maryland. Both the College and the University had laboratories for all the branches needing such equipment for teaching the classes of the first and second years, but in arranging the work for these classes the executive committee endeavored to utilize the best laboratories of the united institution.

The third and fourth year classes will be conducted as heretofore at both places. At the beginning of either the third or fourth year a student may elect which course he will take. Both groups of students will be given the same final examinations and will receive identical diplomas.

At the time this is written it is too early to state accurately the size of the classes, but judging from the number already enrolled both the first and second year classes will be larger than were the combined classes in both schools last year.

## ALUMNI FUND.

The report of the Alumni Fund Committee which is herewith submitted should be of interest to every alumnus.

## SUMMARY OF RECEIPTS AND EXPENDITURES OF ALUMNI FUND COMMITTEE.

RECEIPTS		
Total collected .....	\$1,491.60	
Interest .....	9.56	
		<hr/> \$1,501.16
EXPENDITURES		
Printing .....	\$82.50	
Postage .....	100.00	
Stationery .....	3.10	
		<hr/> \$185.60
Returned to subscribers who made payment for		
1915 .....	77.50	
		<hr/> \$263.10
Available for College use.....		\$1,238.06

## LIST OF SUBSCRIBERS TO ALUMNI FUND.

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## Personal Notes.

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DR. M. P. JONES, '92, Churchville, Va., is the president of the Augusta Co. Medical Society.

At a meeting of the C. & O. Railroad Surgeons Association held at White Sulphur Springs, W. Va., Sept. 3, 1915, DR. R. SUMPTER GRIFFITH, '86, was elected second vice-president.



## Obituary.

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DR. WILLIAM ALLISON SLAUGENHAUPT, '85, aged 57, of Kane, Pa., died in the Summit Hospital, Kane, July 21.

DR. ALBERT JOSEPH LACIER, '89, aged 52, for more than a quarter of a century a practitioner of northwest Baltimore and a member of the staff of the Hebrew hospital; died at his home July 22, from pneumonia.

DR. CHARLES FRANKLIN MOHR, '91, aged 42, of Providence, R. I., who was shot and fatally wounded while riding in an automobile near Nayat, September 1; died in the Providence Hospital, September 2.

DR. GEORGE E. JORDAN, '91, aged 56, a member of the Medical Society of the State of North Carolina and a practitioner and druggist of Gibsonville; died at his home in that place, June 20, from cerebral hemorrhage.

DR. DAVID STREETT, '78, professor of practice of medicine at the University of Maryland and for 25 years dean of the Baltimore Medical College, died at St. Agnes' Hospital following an operation for intestinal trouble, from which he had been a sufferer for some time, July 30, 1915, aged 60 years.

Dr. Streett was one of the best-known physicians in the city, and held many positions of note in the medical profession. He was a Democratic member of the City Council of Baltimore from 1883 to 1885. He was born at Chrome Hill, Harford county, Maryland, October 17, 1855, and was a son of the late Corbin Grafton and Ann S. Streett. He was educated at the Bethel Academy; A. M. (Honorary), Loyola College, 1895; M. D., College of Physicians and Surgeons, 1878. He served as resident physician, Maternité, 1878-79; resident physician, City Hospital, 1879-80; professor of the practice of medicine, Baltimore Medical College, 1885-1914; dean, Baltimore Medical College, 1888-1914; president, Medical and Surgical Society, 1891-92; president, Baltimore Medical Association; vice-president, Medical and Chirurgical Faculty, 1891-92, 1899-1900. He was a member of the University Club, the Flint Club, the Board of Charities and Correction, and an elder in the Franklin Street Presbyterian Church. He wrote many books and papers that were regarded as criterions.

He married Miss Sarah Fusselbaugh, of Baltimore, April 25, 1882. She survives him. He also leaves a daughter, Mrs. C. B. Gill, and a son, Dr. D. Corbin Streett.

## Marriages.

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DR. WILLIAM T. BLACK, '14, of Berkeley, W. Va., to Miss Grace Royston of Baltimore, Md., at Baltimore, June 24, 1915. Dr. and Mrs. Black will reside in Berkeley, where Dr. Black is in practice.

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## Correspondence.

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LEWISTON, IDAHO, September 8, 1915.

*Dear Doctor Brack.*—Inclosed find check for \$1 as per statement. Am doing very well here. Have about all the practice that I care to do. I expect to be in Baltimore during the summer of 1916. Give my regards to everyone.

E. G. Braddock.

LAMARTINE, PA., August 9, 1915.

DR. CHAS. E. BRACK, Baltimore, Md.

*Dear Doctor.*—Have finished my year in the Pittsburgh Hospital and am now practicing with my father.

Dr. Hankey and I both passed the Pennsylvania State Board in June. Enclosed find two years subscription for the Alumni Journal.

Please change my address to Lamartine, Pa.

Sincerely yours,

J. V. McANINCH.

RED LION, PA., September 14, 1915.

*Dear Dr. Brack.*—Enclosed find post office money order for two dollars, dues to the ALUMNI for 1915-16. Am a little slow sometimes but always get there. I am well and hearty and have enough work to keep me busy. I was elected Mayor of our town of three thousand inhabitants, so you can see, I cannot be the worst man in the town. With best wishes to you and the P. & S. I remain.

Yours,

GEORGE N. YAGLE, M. D.

SOUTH ORANGE, N. J., September 13, 1915.

*Dear Dr. Brack.*—Enclosed please find my check for subscription to ALUMNI JOURNAL for 1915 and 1916. I stopped in to pay my respects to the old college on my way South last spring. Although the arrangements

have been changed quite some since the early nineties, there was still a home-like and familiar air about the place. Dr. Harry Friedenwald, who has changed very little since '93, was very courteous in showing me all around. I hope there will be a reunion of the class of 1893, which I believe was the largest in the history of the college in 1918. With kind regards, I remain.

Sincerely yours,

FRANCIS E. KNOWLES.

---

#### BACTERIAL-VACCINE THERAPY.

The treatment of infectious diseases with preparations derived from corresponding micro-organisms long since passed the experimental stage, and bacterial vaccines may be said to occupy an assured place in therapeutics. These vaccines, as is doubtless well known to most physicians, are suspensions, in physiologic salt solution, of killed bacteria. An important effect of their administration is to raise the destructive power of the patient's leucocytes against the specific living invaders. Injected into the human organism, bacterial vaccines have an effect similar to that produced on the horse by the introduction of toxins or killed cultures; they cause active immunity. In other words, the administration of a dose of bacterial vaccine stimulates the patient to produce an additional supply of antibodies, thus enabling him to resist the disease.

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Pneumonia Vaccine, Combined.

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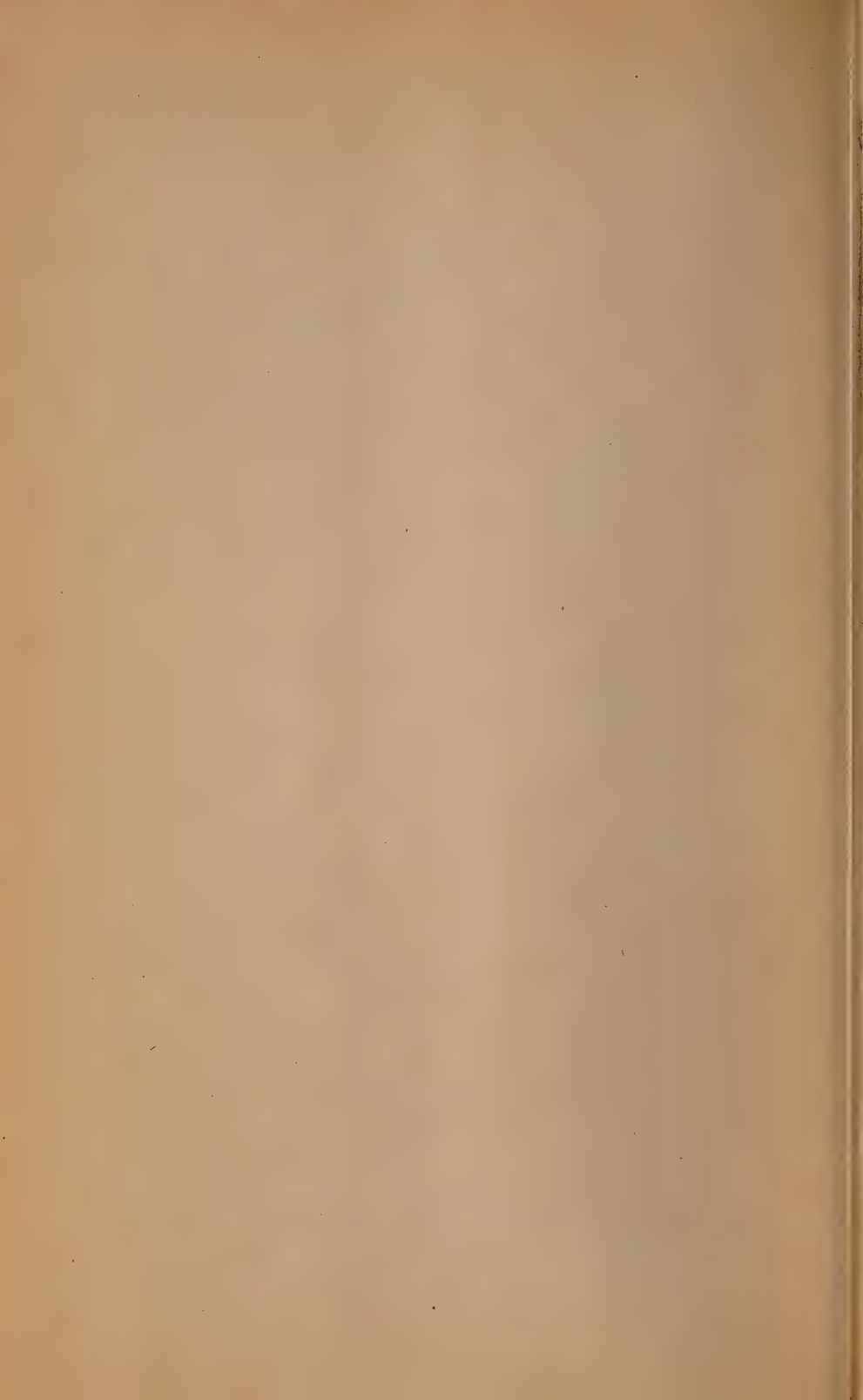
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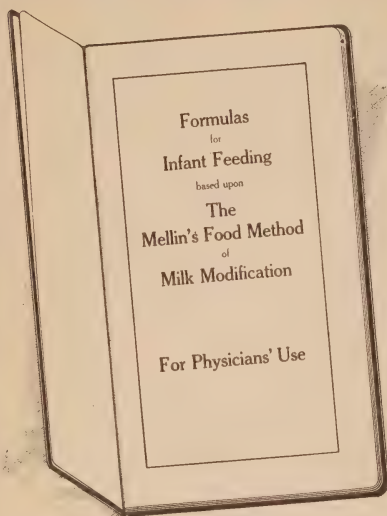
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INTESTINAL OBSTRUCTION.

A STUDY OF THE CLINICAL SIDE.

BY DR. ALEXIUS MCGLANNAN, '95, BALTIMORE, MD.

Clinical experience and experimental study agree that toxæmia is the cause of the high mortality of intestinal obstruction. They also agree that the duration of obstruction, its position and the character of the obstructing force are the important points in determining the severity of the symptoms and the time of the fatal result. The higher the obstruction, the more severe the symptoms and the more rapidly fatal the disease. Strangulation or other interference with the circulation of the bowel increases the severity of the condition, at the same time adding to the probability of fatal outcome.

I have analyzed the original records of 276 cases of acute intestinal obstruction. This number includes 27 varieties of intestinal obstruction exclusive of strangulated hernia.

The etiological factor, therefore, may be of so varied a nature that its accurate determination before operation is not of great importance. Except for the distinction between strangulation and obstipation the nature of the obstruction is entirely unimportant to the clinician, and this distinction only removes the latter variety of cases from the category of urgent surgical lesions and allows a longer period for the use of other justifiable means to relieve the obstruction—namely, repeated enemas and lavage of the stomach. Cathartics must never be given for the relief of any of the symptoms of intestinal obstruction.

The mortality in these 276 cases was 45.7%, practically the same death rate as that reported by Treves 30 years ago, although in this time aseptic



surgery has revolutionized the mortality statistics of acute abdominal diseases in general.

Toxæmia is the real cause of the high mortality of intestinal obstruction as compared with other abdominal diseases. In the present series the causes of death in the fatal cases were the following:

Toxæmia .....	75%
Peritonitis .....	12%
Post-operative shock .....	5%
Miscellaneous .....	8%

Gangrene of the bowel, while a serious complication, is not essentially fatal. In 29 gangrenous cases, eight patients were in sufficiently good condition at the time of operation to permit resection and anastomosis, and six recovered. In the remaining 21 cases the bad condition of the patient required the employment of some expedient at the operation. Only three of the patients recovered.

The cause of death in the gangrenous cases is as follows:

Toxæmia .....	14
Peritonitis .....	3
Pneumonia .....	1
Tuberculosis .....	1
Embolism .....	1

The toxæmia is combated with great difficulty. Not only are its immediate effects on the heart and vaso-motor system dangerous, but secondary effects on the kidneys, liver and other important organs add to the possibilities for disaster. Early recognition and prompt treatment of intestinal obstruction, before toxæmia has developed, offer the only hope we have at present for reducing the high mortality rate. In the present series of cases the average duration of symptoms before operation, in the cured jejunal obstructions, was one and two-thirds days; in the fatal jejunal cases, two and five-sixths days; in the ileum cases the average duration of the cured was three and one-third days, of the fatal six days. Both sets of cases include some in which the obstruction was probably incomplete. This is especially true of the jejunal series, in one of which death from toxæmia occurred although the complete obstruction was relieved in less than four hours after the onset of symptoms, while in another the patient survived, although the operation was performed on

the third day. The statistics, however, agree with the acknowledged rule that the higher the obstruction the more rapidly fatal the outcome.

The problem is to find the clinical picture which will enable us to recognize obstruction in its early curable stage, and to determine what extent of operation should be performed when the condition is complicated by the results of obstruction, namely, toxæmia and gangrene.

The course of an obstruction may be divided into three stages: (1) the stage of onset, when the symptoms are due to the arrest of the intestinal current; (2) the stage of compensation, when the gastro-intestinal organs attempt to overcome the obstruction or its results; (3) the stage of sequelæ or complications, when the obstruction has caused secondary destructive changes in the bowel or in the body as an entirety. The higher and more complete the obstruction, the less clearly defined will be the symptoms of the different stages. In most cases there will be a merging of the symptoms of the various stages. Vascular injury always intensifies the course of the disease.

These stages do not represent any definite period of time, a patient may pass within 24 hours through all three and die of toxæmia. Gangrene may complicate either the compensatory effort or be present with the toxæmia.

In the stage of onset the symptoms are pain, which is usually intermittent and crampy, but may be continuous, nausea and vomiting, with or without constipation or diarrhoea. These symptoms come on suddenly and without regard to the ingestion of food. When the bowels move, either spontaneously or as the result of an enema, the pain is not relieved by this action.

Pain with vomiting and an ineffectual attempt to defecate, is practically pathognomonic of mechanical obstruction, usually of a strangulation.

Lavage of the stomach may empty that organ of food, gastric secretion or duodenal contents, but without permanently relieving the pain. If, therefore, a patient is suddenly seized with abdominal pain, and an effectual enema combined with gastric lavage does not bring relief from the pain, a diagnosis of acute intestinal obstruction should be made and an operation promptly performed.

If there is any hesitation about operating on such slight symptoms, neither food nor drink should be given and lavage repeated after an hour.

The presence of duodenal material in the washings at this time, makes the diagnosis certain and an operation imperative. In 18 cases operation was performed during the stage of onset, the diagnosis being made on these symptoms. In every case a mechanical obstruction was found and relieved and all these patients recovered.

In the second stage we have persistent pain, distention, a visible and palpable spastic coil of intestine, visible peristalsis with ladder pattern, local tenderness, etc. In this stage we frequently have gangrene of the bowel and a localized peritonitis at the seat of the obstruction. In the third stage the toxæmia overshadows the other complications which may be present and becomes the most urgent indication for treatment.

Operative methods will vary with the stage of the disease at which the operation is performed. In the first stage, when there are no complications, the surgeon need only relieve the obstruction. This may be limited to the simple division of the band, or may require a resection and anastomosis for the removal of a tumor. Covering the raw surfaces, or fixation of a particular loop of intestine may become necessary in certain forms of obstruction. In the second stage gangrene of the intestine may complicate the problem. Here the operation performed varies widely with the extent of gangrene and especially with the general condition of the patient. Practically always these patients are beginning to show signs of toxæmia, some have peritonitis, while others have general disease of the vascular system. Almost always they are poor subjects for prolonged operation. Resection and anastomosis is the ideal operation, but often some expedient must be utilized.

In the third stage enterostomy may be the only operation that the condition of the patient will justify. At present it appears that enterostomy should be added to the operation done in this stage. Enterostomy, either alone or in combination with another operation, was performed in 92 cases of this series; 38 of these patients recovered and 54 died. Of the toxic cases without gangrene, enterostomy was done in 77 per cent of the cases with recovery and in but 41 per cent of the fatal cases. It is therefore evident that emptying the obstructed loop of bowel has a decided influence on the toxæmia, and that enterostomy should be done in all toxic cases, either alone or in combination with other operations, according to the general condition of the patient.

To sum up: The treatment of intestinal obstruction varies with the stage of the disease. Toxæmia is the cause of death and is the important factor to be combated in the treatment. In the absence of toxæmia the operative procedures are directed toward the removal of the obstructing cause and repair of any damage done the intestinal wall. When toxæmia has developed, measures may be devised for combating it, regardless of what may be done in direct attack on the obstruction. These measures are: First, enterostomy for the purpose of relieving the body of material which appears to be the source of the toxæmia; second, supplying a large quantity of water, best by hypodermoclysis, to dilute the toxin, and to stimulate its excretion by the kidneys; third, injection of epinephrin intravenously or with the subcutaneous water, to counteract the effect of the toxin on the heart and the blood pressure.

Toxæmia is the constant fatal factor in intestinal obstruction. This explains the slight effect of aseptic surgery on the mortality statistics of the disease. At present we have no certain detoxicating or antitoxic agent, and what slight improvement has been made in the results of treatment must be attributed to earlier intervention. Recognition of the disease in its early stage before the toxæmia has developed and prompt operation in this early stage offer the only hope for reducing the high mortality rate of acute intestinal obstruction.

114 WEST FRANKLIN STREET.

---

### CASE REPORT.

BY DR. J. R. ANDERSON, EPHRAIM, UTAH.

*Patient.*—C. H., a man aged 43 years, married, painter, American, complained of weakness and a large painful mass on the left side of his neck.

*Family History.*—Father died suddenly at the age of 44 years; the mother died aged 44 during child-birth, one uncle died of cancer of the stomach, and an aunt died of dropsy.

*Past History.*—Had measles, whooping cough, mumps, scarlatina and smallpox as a child. During the past seven years has had attacks of pleurisy every other year, always in the right side, and during the past



few years has been subject to frequent colds. There is no history of specific infection.

*Habits.*—Uses coffee and tea moderately and smokes cigarettes excessively.

*Present Condition.*—Dates from December, 1913, when he first noticed a small lump a little larger than the size of a pea near the angle of the jaw on the left side and not painful. This gradually increased in size and three months later had attained one-half the size of an egg and very painful.

He was treated for three months, in spite of which the mass became constantly larger, more painful, and tender. During this period the patient was almost helpless; movements of arms and head were limited and associated with much pain. He also developed a paroxysmal cough which was most severe shortly after rising in the morning and accompanied with expectorating a greenish-yellow, ropy sputum. He at times had profuse night-sweats. The appetite was poor and the weight decreased from 147 pounds to 128 pounds.

After this the mass and pain diminished for a few months, but other small lumps developed at various places on the same side of the neck.

The patient first consulted me on January 2, 1915, at which time there was a large, painful mass on the left side of his neck; very tender to pressure, nodular, and rather firm, and involving nearly all of the left cervical glands.

His general appearance was that of emaciation and exhaustion; weighed 132 pounds, lips and conjunctivæ pale, and face slightly flushed.

*Chest.*—Characteristic phthisical appearance; expansion small; fine crackling rales at end of inspiration and harsh breath sounds were heard in apex of left lung; vocal fremitus diminished, weak respiratory murmur, and friction sounds were heard over base of right lung; percussion note showed increased dullness over left apex and over base of right lung.

*Heart.*—Position of apex normal, no increase in cardiac dullness, heart sounds somewhat booming in character, second pulmonic sound accentuated, no murmurs.

*Pulse.*—(Sitting) 90; rhythm good, blood pressure 116 mm. Hg. Temperature was 99° F.

*Liver and Spleen.*—Negative.

*Kidneys.*—Not palpable.

*Digestive System.*—Tongue slightly coated. Appetite very poor and bowels irregular.

Von Pirquet test markedly positive.

*Blood.*—Hæmoglobin about 80%.

Differential count: polyneu 82½%.

Small mono. 8½%, large mono. 4%, eosin. 5%, bas. 0%.

*Urine.*—Negative.

I was unable to get a specimen of sputum until February 10, when patient had a small pulmonary hemorrhage, the tubercle bacilli were found on examination.

*Treatment.*—Patient refused to consider surgical procedure for removal of the infected cervical glands if any other method could possibly be employed.

January 13, the patient received, hypodermically, the initial dose of Parke, Davis & Company's tuberculin residue, 1 cc. of a .0001 mg. tablet dissolved in 10 cc. of sterile water. The graduate method was employed and the table advised by Parke, Davis & Company was followed as near as possible, avoiding, if possible, any reaction; the injections were given every five to ten days.

The patient has received three strength vials of ten tablets each, .0001 mg., .001 mg., and .01 mg., respectively, and at no time has any reaction been noted. In addition to these injections the patient was placed on large doses of syrup of the iodide of iron, advised to enjoy fresh air constantly, and to eat highly nitrogenous food. All stimulants and tobacco were discontinued.

After the first few injections he has scarcely lost a day from his work, he enjoys three large meals daily, and sleeps soundly every night. He is free from night-sweats and the cough and expectoration have gradually disappeared, and he is now free from both. The weight has increased to 138½ pounds, and his general appearance is much improved.

This patient has not been under my care since last September, consequently the above observations were made up until that time.

I have had the opportunity of seeing a case of tubercular peritonitis with the same gratifying results from tuberculin injections.

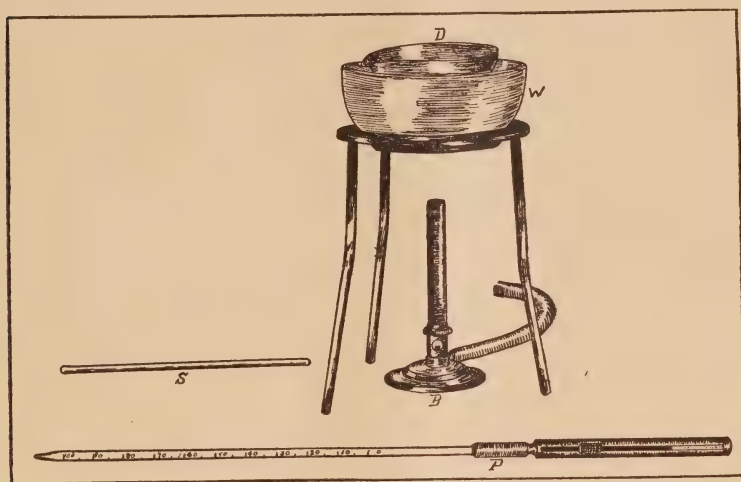
AN IMPROVED METHOD FOR THE RAPID ESTIMATION  
OF SUGAR.\*

BY HARVEY G. BECK, M. D., BALTIMORE, MD.

The internist in his routine of studying cases is frequently confronted with the problem of curtailing time-consuming methods. In fact, personal experience has led me to the conclusion that no laboratory tests are practical for the busy clinician if they require an average of more than ten minutes. This applies with special force to the study of diabetic subjects where daily examinations of the urine for sugar, acetone, diacetic acid, etc., are required. To treat this disease intelligently and scientifically, routine examinations are essential. Moreover, it is the best means of gaining the support and co-operation of the patient, which are so necessary if one hopes to meet with any degree of success in the treatment of this disease. Patients, as a rule, are willing to carry out a diet with judicious care if they are kept informed of the results of such treatment as expressed in the percentage or quantity of sugar eliminated per diem. In recognition of this fact I devised a method for the rapid estimation of sugar in urine some years ago. The method was described in an article published in the *Medical News*, September 3, 1904. After considerable experience with this method I found that certain modifications enhanced its value and increased its simplicity and rapidity without impairing its accuracy. Simple apparatus suffices to make the test, namely: a small evaporating dish (d), a larger evaporating dish for water bath (w), a Bunsen burner (b), a glass rod or spatula (s) and a one cubic centimeter pipette graduated into 1/100 cc., connected with a Koch's safety capillary pipette filler (p). The application of the test is made by floating the small evaporating dish containing 2 cc. Fehlings solution in the larger dish containing water heated to boiling temperature. The urine is discharged from the capillary pipette, which is filled to "0" by gently sliding the thumb cap on the pipette filler while stirring the solution with a glass rod until the blue color disappears. After ascertaining the amount of urine discharged from the pipette, compute the percentage by dividing the number of hundredths cubic centimeters used into 100. The test is facilitated by

\* Demonstrated at a meeting of the Research Club of the College of Physicians and Surgeons, February, 1915.

diluting the Fehlings solution with 5 to 10 cc. of boiling water taken from the water bath with a pipette. With hot running water in a laboratory the estimation of sugar can be made in five minutes. This has a great advantage in economizing time over the original titration method, in which a burette is used, and furthermore obviates the objectionable features which militate against accurate determinations. One of these features in the original Fehlings titration test, where direct heat is used, is the burning of sugar into caramel on the evaporating dish. This imparts a dark color to the contents, which decidedly interferes with the end



NOTE.—I am indebted to Dr. A. H. Sanford of the Mayo Clinic, who first called my attention to the use of Koch's safety capillary filler, and to B. T. Baggott for making the sketch illustrating the apparatus.

color reaction. Another feature eliminated when using a water bath is the reduction of Fehlings solution by such substances as uric acid, kreatin, kreatinin, nucleoalbumin, etc., present in the urine. These do not materially interfere when the reaction takes place below the boiling temperature. The polariscopic method, although rapid, is not infallible, owing to the fact that in advanced cases of diabetes B-oxybutyric acid, a levorotatory substance, frequently appears in the urine, sometimes in larger amounts than sugar itself. Levulose, which may appear even in mild cases, has the same effect. With the fermentation test it is impossible to



ascertain the results in time to be of any value to the patient, and therefore it must be regarded as impractical. The only advantages claimed for the new method described are speed, simplicity and accuracy, features which commend any laboratory method for general use in clinical work.

20 E. PRESTON STREET.

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### THE NEED OF INDIVIDUALIZATION IN OBSTETRICS.\*

By FRANKLIN S. NEWELL, M. D., BOSTON, MASS.

One of the grave reproaches under which the medical profession rests to-day is that, although marked progress is being made in most branches of medicine and surgery, little or no advance is being made in the art of obstetrics, except by a small group of men. The great majority of the medical profession seem to believe that since childbearing is a natural function, a physician needs no special training to fit him to practice obstetrics, since nature can be trusted to safeguard the parturient woman, except in the event of rare and unpreventable complications. It is not at all uncommon to hear a man, well equipped in some other branch of medicine, scoff at the idea that any special preparation is necessary for the proper practice of obstetrics, and yet we not uncommonly hear soon afterwards that this same practitioner has had hard luck in one or more obstetric cases, and has lost either mother or baby or both. This so-called hard luck is definite evidence that his knowledge and skill were inadequate to the demands made on them in the particular instance, and in the majority of such cases a more thorough knowledge of the obstetric art, combined with a more careful study of the needs of his patient would have led to a favorable outcome. This indifference to the needs of the patient is undoubtedly due to the fact that childbearing is a natural physiological function in normal women, and the infallibility of nature's method has been so deeply impressed on the minds of the majority of the profession that they cannot see the possibility of any advantage accruing to the patient from any departure of nature's method. Furthermore, they do not realize that a considerable proportion of the women in every civilized community have ceased to be normal, and that the bad results are due to

\* Reprinted from the New York State Journal of Medicine, February, 1914.

a lack of appreciation of the conditions present and are not unavoidable accidents.

We must admit, however, that certain bad results are unavoidable. Pulmonary embolus may occur in spite of all that we can do to prevent it. Antepartum death of the child may occur from intrauterine pressure on the cord or from premature separation of the placenta, complications which cannot be foreseen, but that is no reason for not trying to foresee and prevent every possible complication, and thus giving our patients the benefit of every means at our command to insure a good result.

A great improvement in obstetrics would be made if the profession as a whole could be made to realize that every parturient woman should be considered as a doubtful risk, in whom any complication may arise, and studied as such, instead of being considered as a normal patient in whom no abnormalities need be looked for. No two cases are exactly alike, and, therefore, the care which a patient receives should be adapted to her needs and not to those of some other patient or group of patients, if the best results are to be obtained. The needs of the individual patient can only be ascertained by a careful study of her physical and nervous condition, and the environment in which she has been brought up and in which her future life must be passed, and on the results of such a study must the care given each patient be based, and nothing can be less intelligent or more likely to favor bad results than the adoption of a routine in the caring for obstetric cases.

In hospital practice where a large number of patients are cared for it is almost inevitable that the individual should receive comparatively little attention and that patients should be treated in groups, but that is one of the misfortunes of hospital work. In private practice, however, there is no excuse for not carefully studying each individual patient and selecting the treatment best suited to her needs. This, however, requires that the obstetrician take his work seriously, and shall have fitted himself to give his patient the care which she demands. The majority of the men who are doing obstetrics at the present time are not really interested in the work, and trust to luck that no complication will arise in a given case, rather than try to foresee and prevent such complications. No conscientious surgeon would consider himself qualified to perform a complicated operation without an adequate preliminary training, but the average

medical practitioner feels himself qualified to take obstetric responsibilities which involve the life and health of two patients, and is willing to attempt serious operations which are far more difficult and require greater technical knowledge and skill than the average surgical operation without any attempt to fit himself for the problems he must meet. The reason for this indifference to the well-being of the patient is undoubtedly the recognized fact that the great majority of women will come through labor alive and with a living child, if left to the unaided efforts of nature, and, therefore, the average practitioner does not feel it necessary to fit himself to meet the occasional emergency which involves the life of either patient, and he almost never considers his responsibility in the future health of his patient, provided only she and her child come through labor alive. Faulty teaching in our medical schools is largely responsible for this attitude, because the students are instructed that such an overwhelming majority of patients will come through alive if left to the unaided efforts of nature that it seems a waste of time for the man who does not mean to be a specialist to fit himself to deal with the occasional complicated problem, since he can usually get some one else to assume the burden for him when he finds that he is unable to cope with it, although by the time he has reached this conclusion irreparable damage may have been done. Another fault in our teaching, it seems to me, lies in the fact that most of our teaching is based on hospital patients, who are largely of the peasant class and more or less uncivilized, so that the average physician enters practice largely ignorant of the fact that the civilized woman, who is often nervously overdeveloped, may require entirely different treatment in the presence of the same physical conditions as her less civilized sister, unless she is to show serious effects from the strain she must undergo.

The object of the obstetrician who assumes the responsibility for any case must be three-fold.

The preservation of the maternal life is, of course, the first object to be considered in the care of a case, and there can be no doubt that the loss of a patient during parturition usually means that the needs of the individual patient were not appreciated, and that the complication which caused her death was not recognized at a sufficiently early date for her to receive the care she needed. Pulmonary embolism, of course, may occur

at any time following labor, and unless it is secondary to a septic phlebitis is an unpreventable accident. It is unpreventable, indeed, if it follows a septic process, but the sepsis is almost always due to some fault in technique on the part of the attendant, which should have been avoided. The other obstetrical complications which commonly lead to maternal death, such as hemorrhage before or after delivery, toxæmia, and infection can usually be avoided or at least treated successfully, if the patient is under sufficiently close observation and the attendant is competent. Danger to the patient arising from cardiac complications or other chronic diseases should be recognized early in pregnancy, and in serious cases the ending of the pregnancy may be necessary to save the patient's life, but it is never safe to assume that, because another patient with apparently a similar organic lesion has come through her pregnancy successfully, the given patient will do equally well, until every possible means at our command has been exhausted in the attempt to palliate the condition. Of course supervening acute diseases will cause a certain mortality both of mothers and children, and this will prove unpreventable in the majority of instances, but the regulation of the patient's life may render her less susceptible to infection and less likely to expose herself to it, and thus be of considerable value.

The second object of the obstetrician is to insure the birth of a living, uninjured child. This is a most important aim, but none the less it must be considered as distinctly secondary to the preservation of the maternal life. It will happen in rare cases that the interests of the child must be sacrificed for those of the mother, and the obstetrician will be perfectly satisfied if the maternal life is preserved, no matter what the outcome for the child, but such a result must mean that the conduct of the case has not been entirely successful, although the attendant conditions may have been such as to make even this partial failure a satisfactory result. In our ignorance of the etiology of certain obstetric complications we are not able to apply adequate preventive measures in all cases, and the sacrifice of the baby may be necessary to save the mother, but such a result means that owing to our ignorance on certain points we are forced to be content with a partial failure, and obstetrics will never be entirely successful until these partial failures can be eliminated or at least much reduced in number.



The third object of the obstetrician is to bring the mother through her pregnancy and labor in such a manner that when her convalescence is completed she is ready to take her place in the grade of society to which she belongs in as good a condition to sustain the burdens of her ordinary life as before pregnancy began. We are, all of us, familiar with the fact that nature unaided is very often inadequate to meet this indication, and our aim must be to have such knowledge of the needs of each individual patient as will enable us to supplement nature when necessary. There is nothing in medicine which requires a more perfect judgment, and the most successful obstetrician will be the man whose judgment as to the needs of the individual and the methods which will best meet those needs is least often faulty.

In following obstetric literature I have gained the impression that the preservation of the maternal and foetal life receives the entire attention of the average practitioner, and that the future welfare of the mother is so overshadowed by the other indications as to receive comparatively little attention. From the standpoint of the patient, however, her health may be nearly as important as her life, and a condition of chronic invalidism, due to a lack of proper care during pregnancy and labor, is just as clear a confession of failure on the part of the obstetrician to appreciate the conditions present in the individual patient as is the loss of either mother or child.

To one who studies his patients carefully and notes the individual differences between them, it must be clear that uniformly good results can only be obtained by the careful, intelligent study of each patient. Errors of judgment will be made by the most careful observer, but these errors will be reduced to a minimum if each patient is treated by herself and not as a member of a class to which certain general principles are applicable. In order to give his patients proper care the obstetrician must be familiar not only with the physical and nervous peculiarities of his patients and the way in which they have reacted to such strains, both nervous and physical, as they have been subjected to in the past, but he must be familiar with their mode of life and the conditions under which their future lives must be passed before he can give them adequate care. He may find it possible by proper advice to so regulate a patient's life as to materially alter an improper method of living, but generally speaking the most he

will be able to do will be to adapt his methods to the patient rather than to change her attitude toward life.

The careful oversight of pregnancy is one of the most important items in the care of an obstetric case and is probably neglected more than any other portion of the parturient state. It is not at all uncommon to hear that a physician has not seen his patient for five or six weeks or even longer, and that, although he asked her to send a specimen of urine for examination and to report at his office from time to time, she has not done so, and when he finally sees her he is not infrequently confronted with a serious complication, which might have been entirely avoided or successfully treated if his patient had been under proper supervision. This is, of course, the fault of the patient if she has not consulted any physician until late in her pregnancy, but if she has once placed her case in a physician's hands he must share the blame with her if he allows her to neglect his advice.

The average pregnant woman seems to feel that supervision of the pregnancy is unnecessary, as she usually is entirely ignorant of the possibilities of mishap. It is, therefore, part of the duty of the attending physician, for the patient's good and almost equally for his own, to insist that his patient report to him at regular intervals so that he can study the progress of the pregnancy, and note any departure from the normal in its early stages, and thus be in a position to determine what care the patient needs during the pregnancy, and to estimate her needs at the time of labor. Few patients will be found who will disregard the injunctions of their physician if the reasons for the advice are carefully explained to them, but most women are extremely ignorant about the hygiene of pregnancy, and what often seems to be disregard of the simple laws of health is due to ignorance, and unless the physician is in a position to appreciate this fact and to correct it as far as possible he may be seriously disappointed by the ultimate results in a given case. When a patient has been properly watched during pregnancy the attendant is in a strong position. He is able to say definitely whether his patient is or is not physically normal. The effect of the pregnancy on her physical and on her nervous condition is known and he can seldom be surprised by being suddenly called and finding his patient in a serious condition, since his constant observation of her will have shown him any abnormality in its early stages.

By his preliminary examination in the latter weeks of pregnancy he knows, or should know before labor begins, whether any disproportion exists between the size of the child and the maternal pelvis, and from his previous observations he is able to estimate more or less correctly what the character of the labor will be, and what the effect of labor will be on her nervous and physical condition. With this thorough knowledge of his patient he is in a position to give her the care at the time of labor which she needs, and will never be placed in the unfortunate position of assuming a grave responsibility for a patient about whom he knows little or nothing. If she is of a nervous, high strung temperament, reacting in an exaggerated manner to minor impulses she must be treated in an entirely different manner from the patient who is phlegmatic and who has never shown any marked reaction to the strains which have been laid upon her. To the patient whose nervous equilibrium is unstable the pain of even a normal labor may prove an excessive burden, and it may be necessary to shorten labor by operative means or even to do away with it altogether and to resort to a surgical delivery in order to save her from the nervous exhaustion which may result from a labor of even moderate severity, even though no physical abnormality is present. If she has reacted seriously to such strains as have fallen to her lot in the past, and particularly, if her powers of recuperation are poor, she must be recognized as being unfit to be subjected to any avoidable strain and be handled accordingly, whereas the woman who has always recuperated fully and rapidly or who has never shown any sign of failure under strain can be considered as a good risk, and allowed to undergo even a severe labor without fear. If the ordinary conditions of the patient's life are such as to tax her powers of resistance to the utmost, both her life during pregnancy and the conduct of labor must be so regulated as to do away with all possible strains, since many of these patients who are living under constant high tension have little or no reserve power, and if their slight powers of resistance are once broken down it may take months or years for them to recuperate, if indeed they ever recover entirely.

In a patient of this class it must be particularly remembered that she will probably return to the life which she has temporarily abandoned at the earliest possible moment, and that no amount of advice is going to materially alter that life, until either a nervous or physical breakdown



renders a change imperative. It is particularly important, therefore, in patients of this class to so regulate the pregnancy and labor that all possible strain shall be removed, since if her equilibrium is seriously disturbed it may become necessary to remove her entirely from the burdens of her ordinary life until her balance is restored, which may take weeks or months even, if it is ever entirely successful.

The obstetrician who treats all patients of a certain physical equipment in the same way will be much disappointed at the results which he will obtain in certain cases, but if he devotes any thought to his work he must realize that many unsatisfactory results might have been avoided if he had studied his patient more carefully and suited his methods to her requirements.

There is no doubt in my mind but that many cases exist in every civilized community who are relatively or absolutely unfit for childbearing on account of either nervous or physical abnormalities, and in these cases the methods employed in conducting the pregnancy and labor are of the greatest importance. The common saying that 95 out of every 100 cases will go through labor without trouble, even though they receive little or no care, has been responsible for a great deal of harm. It is undoubtedly true that the lives of both mother and child will be preserved in the great majority of cases in the absence of physical complications, even though the patient has received no care, but if we are to do our full duty by our patients and get the best results possible, we must go further and consider how to prevent childbearing from having serious after effects on the lives of our patients, particularly those who belong to the class of the unfit in whom comparatively minor lesions may be expected to produce exaggerated reactions.

It is a matter of common knowledge that improper care or better, perhaps, a lack of proper care at the time of labor furnishes the gynæcologist with most of his operative material, and the neurologist also benefits largely from the blind acceptance of the dogma that childbearing is a normal physiological function, and that no special training is necessary to fit a practitioner to oversee it properly. Every gynæcologist is familiar with the fact that many patients come to him who show marked lesions as the result of childbearing with comparatively slight symptoms, and he also sees other patients in whom exaggerated symptoms result from minor



lesions. This difference among patients points definitely to the fact that obstetric patients must be treated as individuals and not as members of a class, to be judged merely by the question of whether any disproportion exists between the size of the child and the maternal pelvis, and that to obtain good results the needs of the individual must be ascertained and the care which she receives regulated in accordance with her needs. If obstetrics is to be done intelligently we must not wait for the patient's powers to fail before giving relief. In the patient who is comparatively normal no harm will result from allowing her to go through labor trusting to her own powers, simply terminating labor by an easy low forceps operation or allowing her to terminate labor naturally as may be deemed wise. In a patient of equally good physical equipment the nervous equilibrium may be so unstable that interference may be necessary comparatively early in labor to avoid unpleasant consequences, and in the exaggerated cases it may be unwise to allow a patient to go into labor at all on account of the marked reaction which the patient has shown in the past to such strains as she may have been subjected to.

It may seem radical, perhaps, to advocate Cæsarean section when no physical indications for the operation are present, but the fact has been repeatedly demonstrated that certain patients will undergo and recuperate rapidly from a surgical delivery who have been more or less seriously invalided by the strain of a prolonged labor in the past, and Cæsarean section, furthermore, has the advantage of avoiding lacerations with their attendant symptoms and the possible necessity of a secondary operation to make good the obstetric damage. The prejudice which exists among certain members of the profession against Cæsarean section on the ground that it is an unnatural method of delivery, and, therefore, never to be employed except for physical necessity seems to me beside the point. In our modern civilization we are not dealing with normal, natural women, and the abnormal patient must be cared for in an abnormal way, if good results are to be obtained. There is no question to my mind but that the results of Cæsarean section in competent hands are better for both mother and child than the results of difficult forceps operations or versions, and since the object which the obstetrician has in view is the best good of his patient, it seems time to depart from the traditions of obstetrics and give our patients the care best suited to their needs.

The practitioner who follows blindly the teaching of the past will undoubtedly prefer to deliver every patient through the natural passages, if possible, although this may involve such a difficult operation as to place the mother's life in jeopardy and possibly lose or injure the child, and will pride himself on each case in which he succeeds in extracting a living baby by a difficult pelvic operation, entirely ignoring the fact that to accomplish his object he had subjected both mother and child to a serious risk of loss of health, if not loss of life, and will quote the result as a triumph of conservatism.

This brings us naturally to one of the great questions in obstetrics at the present time. What is real conservatism? The so-called conservative claims that childbearing is a normal physiological function which every woman is fitted to fulfill as long as no actual disease or marked physical abnormality is present. Such an attitude of mind means to me that the so-called conservative has devoted little or no thought to the future well-being of his patient and simply considers that the outcome of her labor is successful as long as both mother and child are fortunate enough to be alive.

The obstetrician who advocates delivery by surgical means for a patient in whom no physical indication for operation can be demonstrated is classed as a radical, and the term is employed as one of reproach, implying a mental attitude which denies the sovereign power of nature and advocates the substitute of surgical methods of delivery for the natural processes.

It seems to me, however, that the above definition of conservatism is open to question, since the first object of every obstetrician in the care of a case should be the best good of his patient, and every patient whose health suffers from the effects of childbearing or whose baby is lost is an example of a lack of conservative care, since such a result shows that the needs of the individual patient have not been appreciated. Unfortunately we all see such cases in our practice.

The essential difference between the so-called conservative and the so-called radical is that the conservative adheres blindly to the methods of the past and refuses to give his patients the benefits of modern progress with the result that the gynæcologist sees many patients who date their ill

health from childbirth. Each patient who gives a history of this sort is an example of improper obstetric care, or at least of a lack of proper care.

The so-called radical is trying to give his patients the benefits of modern progress. He may go too far and perform some unnecessary operations in the fear that his patients cannot safely undergo the strain which a possibly difficult labor may entail, and he will undoubtedly treat many border-line cases according to surgical methods perhaps unnecessarily instead of running serious risks with them by following out traditional procedures.

It seems to me, however, that the essence of true conservatism lies in the careful study of the patient and the selection of the method of treatment which seems to offer the least risk of a bad result.

I do not claim that the majority of patients, or even any large minority, should be subjected to a surgical delivery, but I do believe that there exists in every civilized community a considerable number of women who should be spared all possible strain, and for whom the strain of labor may be a serious burden, and in whom the danger of lacerations, with their attendant symptoms, are to be avoided by every possible means. In other words, every patient should be studied as an individual, and the greatest care should be taken in adapting the methods employed in the conduct of her pregnancy and labor to her nervous and physical equipment, both from the standpoint of the immediate result and her future well-being.

Errors of judgment will undoubtedly be made by every obstetrician, but it is only by such a study that we can raise the standard of obstetrics. That the standards of obstetrics need to be raised seems to me an unanswerable proposition. When thoughtful physicians are willing to say publicly, that the training and licensing of midwives is an economic necessity, because the poor can receive better care and be placed in less danger, if cared for by midwives than by the members of the medical profession they are in a position to employ, there can be little doubt but that the standards of obstetrics need to be changed, and one of the important steps in making this change is that our students should be taught to consider their patients as individuals, each of whom may require special treatment, instead of grouping them together and assuming that every patient can take care of herself if left to nature. In addition every student should be made to realize that if he means to handle obstetric cases

he must fit himself to take proper care of them instead of trusting to luck or nature.

As long as obstetrics remains largely in the hands of men who have never qualified themselves to give their patients proper care and who are willing to attempt serious operations without adequate preliminary training, to say nothing of the fact that they do not realize the necessity of acquainting themselves with the needs of their patients as individuals, just so long will the profession rest under the stigma that little or no improvement has been brought about in obstetric results in the last 20 years. Intelligent obstetrics means careful study of every patient as an individual and the adoption of such methods at the time of labor as she is found to require to insure not only her life and that of her baby, but her future health.

Although the greater part of this paper has been devoted to the needs of the patient during pregnancy and labor, it must not be forgotten that the after-care of the patient counts for a great deal in the ultimate outcome of the case. My time is too short to take this up in detail, but the careful supervision of the convalescence will count for much in the patient's future health, and should be thoroughly followed out.



## Obituary.

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DR. JOSEPH A. MILES, '07, aged 43, of Baltimore, died in Mercy Hospital in that city, December 14, from tuberculosis.

DR. PHILIP R. HENGST, '83, aged 59, of Waco, Texas, died in his apartment in Baltimore, December 13, from cerebral hemorrhage.

DR. LAWRENCE ORR MCCALLA, '93, aged 52, a retired practitioner of Starr, S. C.; was shot and killed by his wife's nephew, October 9.

DR. HENRY M. JEWETT, '88, aged 56, formerly attending surgeon to the Roger Williams Eye, Ear and Throat Infirmary, Providence, R. I., and a practitioner of Providence; died at his home in Edgewood, Providence, January 19.

DR. PAUL RIDER, '11, aged 31, a Fellow of the American Medical Association and a practitioner of Wardensville, W. Va.; died at the home of his wife's parents in Morgantown, W. Va., February 1, of myocarditis.

DR. JOSEPH BROOKS FOLLMER, '84, aged 56, a member of the Medical Society of the State of Pennsylvania; school director and member of the Board of Education of Berwick, Pa., for many years; died at his home in Berwick, January 31.

DR. CHARLES L. WACHTER, '84, aged 60, a member of the medical and surgical faculty of Maryland; a member of the Frederick County School Board and director of the Thurmont Bank; died at his home in Sabillasville, Md., February 3.

DR. LUTHER HERN KELLER, '75, aged 63, of Hagerstown, Md.; a Fellow of the American Medical Association; a specialist on diseases of the ear, nose, and throat; died in the Washington County Hospital, Hagerstown, September 30, from heart disease.

DR. JOHN GILBERT SPANGLER, '87, aged 55, a member of the Medical Society of the State of Pennsylvania; of Mapleton Depot, Pa.; while going over the Pennsylvania System at Mapleton, January 7, was struck by a train and instantly killed.

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# THE JOURNAL

## OF THE ALUMNI ASSOCIATION

OF THE

### COLLEGE OF PHYSICIANS AND SURGEONS,

### BALTIMORE.

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#### THE JOURNAL.

This number of the JOURNAL OF THE ALUMNI ASSOCIATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS completes the eighteenth volume. This will be the last issue.

With the combination of the medical schools it is necessary to have a publication that will reach all of the alumni. Since they number between six and seven thousand the field is too large to be covered as it has been in the past. The exact character of the publication to be issued has not been determined upon, but it is certainly desirable to have a quarterly or bi-monthly that will go to every alumnus of the College of Physicians and Surgeons, the University of Maryland School of Medicine and the Baltimore Medical College.

In 1898 Dr. Harry Friedenwald was the president of the Alumni Association, and the idea of the establishment of a Journal was a part of his program for the advancement of the Association and for the interests of the college. Under his leadership the officers and the Executive Committee undertook to establish and maintain a quarterly publication, the object of which was "to bring into closer relations the alumni scattered widely over the world."

Not one dollar of capital stock was invested in the venture, and when the books are closed there will be no melon to cut. While there have been many times when close calculations were necessary, at no time have the finances of the JOURNAL been in absolute distress. The cost of printing

and distribution was much increased by the fact that each number was sent to from five to ten times as many members as there were paid subscribers; but the object of the publication was to reach every member whose address could be obtained.

When deciding upon the shape and size of the JOURNAL, the style of type and the quality of paper to be used, the Committee had the very able and friendly advice of Mr. Nathan Billstein of the Friedenwald Co., now the Lord Baltimore Press. From the time of its proposal to the present, Mr. Billstein has given much personal attention to the JOURNAL, and the managers are much indebted to him for his assistance.

The first business manager of the JOURNAL was Dr. William J. Todd, of Mt. Washington. After six years of conscientious work, Dr. Todd found that his location out of the city made it very inconvenient for him to attend to the business of the JOURNAL. On this account he resigned in 1904, and Dr. Charles Emil Brack was selected for the position. For the past twelve years practically the whole burden of the financial management has been upon the shoulders of Dr. Brack. The fact that such a publication, with a very small paid subscription list, was continued through so long a period is a monument to his industry and efficiency.

The present editor has held the position since the JOURNAL was established in 1898. In October, 1901, Dr. John Ruhräh was made associate editor. For several years past the major part of the work of preparing reading matter has been done by Dr. Ruhräh.

We wish to thank the alumni for their support, and to ask their continued interest in the medical school which we believe has a great future.

Our thanks are due to our advertisers, without whose support the JOURNAL could not have continued. We believe they got their money's worth. At any rate they got just what they were promised, a publication that went to every alumnus, and that carried news from home.

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#### THE STREETT MEMORIAL.

It is the desire of some of the friends of the late Professor David Streett to honor his memory in a substantial manner; and it has been suggested that a memorial scholarship in his name be established at the

University of Maryland for worthy but indigent medical students, to enable them to continue their studies. In this manner an urgent need may be satisfied and a perpetual memorial be established in honor of our late friend and colleague. If this project meets with your approval, we should be glad to receive a contribution from you for this purpose.

Subscriptions may be sent to Registrar Caleb Winslow, University of Maryland.

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### "ARTICLES OF FAITH" CONCERNING CANCER.\*

#### A PLATFORM UPON WHICH TO UNITE IN THE CAMPAIGN OF EDUCATION.

(1) That the hereditary and congenital acquirement of cancer are subjects which require much more study before any definite conclusions can be formed concerning them, and that, in the light of our present knowledge, they hold no special element of alarm.

(2) That the contagiousness or infectiousness of cancer is far from proved, the evidence to support this theory being so incomplete and inconclusive that the public need have no concern regarding it.

(3) That the communication of cancer from man to man is so rare, if it really occurs at all, that it may be practically disregarded.

(4) That those members of the public in charge of or in contact with sufferers from cancer with external manifestations, or discharges of any kind, need at most take the same precautionary measures as would be adopted in the care of any ulcer or open septic wound.

(5) That in the care of patients with cancer there is much less danger to the attendant from any possible acquirement of cancer than there is of septic infection, or blood poisoning from pus organisms.

(6) That in cancer, as in all other disease, attention to diet, exercise and proper hygienic surroundings is of distinct value.

\* During the four-day Cancer Educational Campaign, held under the auspices of the Vermont State Medical Society, June 8-11, 1915, Dr. William Seaman Bainbridge, of New York City, presented the accompanying 21 "Articles of Faith" at several sessions. They form the conclusion of a paper entitled "The Cancer Patient's Dilemma. A Plea for the Standardization of What the Public Should be Taught in the Campaign of Education Concerning Cancer," which Dr. Bainbridge read at one of the sessions, and which appears in full in the Cancer Number of the *New York Medical Journal*, July 3, 1915.



(7) That, notwithstanding the possibility of underlying general factors, cancer may, for all practical purposes, be at present regarded as local in its beginning.

(8) That, when accessible, it may, in its incipency, be removed so perfectly by radical operation that the chances are overwhelmingly in favor of its non-recurrence.

(9) That, when once it has advanced beyond the stage of cure, suffering in many cases may be palliated and life prolonged by surgical and other means.

(10) That while other methods of treatment may, in some cases, offer hope for the cancer victim, the evidence is conclusive that surgery, for operable cases, affords the surest present means of cure.

(11) That among the many advances in and additions to cancer treatment, the improvements in and extensions of surgical procedure surpass those in any other line, and fully maintain the preeminent position of surgical palliation and cure.

(12) That there is strong reason to believe that the individual risk of cancer can be diminished by the eradication, where such exist, of certain conditions which have come to be regarded as predisposing factors in its production.

(13) That some occupations, notably working in pitch, tar, paraffine, analin or soot, and with X-rays, if not safeguarded, are conducive to the production of cancer, presumably on account of the chronic irritation or inflammation caused.

(14) That prominent among these predisposing factors, for which one should be on guard, are: general lowered nutrition; chronic irritation and inflammation; repeated acute trauma; cicatricial tissue, such as lupus and other scars, and burns; benign tumors—warts, moles, nevi (birth-marks), etc.; also that changes occurring in the character of such tumors and tissues, as well as the occurrence of any abnormal discharge from any part of body, especially if blood-stained, are to be regarded as suspicious.

(15) That while there is some evidence that cancer is increasing, such evidence does not justify any present alarm.

(16) That suggestions are put forward from time to time regarding eugenic, dietetic and other means of limiting cancer, should not be accepted

by the public until definitely endorsed by the consensus of expert opinion. Such consensus does not exist to-day.

(17) That so far as we know there is nothing in the origin of cancer that calls for a feeling of shame or the necessity of concealment.

(18) That it will be promotive of good results if members of the public who are anxious about their health and those who wish to preserve it will, on the one hand, avoid assuming themselves to be sufferers from one or another dreadful disease, but, on the other hand, will submit themselves periodically to the family physician for a general overhauling.

(19) That at all times and under all conditions there is much to be hoped for and nothing to be feared from living a normal and moderate life.

(20) That the finding of any abnormal condition about the body should be taken as an indication for competent professional and not personal attention.

(21) That watchwords for the public until "the day dawns" and the cancer problem is solved, are: Alertness without apprehension, hope without neglect, early and efficient examination where there is doubt, early and efficient treatment when the doubt has been determined.

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### Obituary.

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DR. JOSEPH R. HUNTT, '88, aged 50, mayor of Laurel, Md., for one term; formerly health officer; local surgeon of the Baltimore and Ohio Railroad and director of the Citizens' National Bank; died at his home in Laurel, October 18, from cerebral hemorrhage.

DR. WILLIAM H. PRUNER, '84, aged 60, a Fellow of the American Medical Association and for the last 25 years a practitioner of Washington County, Neb.; died at his home in Kennard, Neb., October 19, from prostatic abscess complicated with multiple abscesses of the kidney.

DR. JAMES WALTER BAIRD, '74, aged 65, formerly a member of the Medical Society of Virginia, died at his home near Waverly, Surry County, Va., November 30, from the effects of a gunshot wound of the head believed to have been self-inflicted while suffering from depression due to ill health.

DR. JAMES TAYLOR JONES, '70, aged 59, a member of the Tennessee Medical Association; a Confederate veteran; formerly president of the West Tennessee Medical and Surgical Association and one of the best-known practitioners of that part of the state, died at his home in Jackson, Tenn., November 5, from pleuro-pneumonia.

DR. WILLIAM VIRGIL NEWSOM, '87, aged 67, a member of the Florida Medical Association and for several years president of the Marion County Medical Association; local surgeon at Ocala, Fla., for the Seaboard Air Line Railway; visiting physician and director of the Marion County Hospital; died at his home in Ocala, November 11.

DR. TIFFIN J. SHACKLEFORD, '82, aged 60, a Fellow of the American Medical Association; president of the Indiana Thirteenth District Medical Association in 1913 and formerly president of the Kosciusko County Medical Society; formerly health commissioner of Warsaw, Ind., and Kosciusko County; died at his home in Warsaw, November 17, from cerebral hemorrhage.

DR. CARROLL ROLLIN BANCROFT, '08, aged 36, a Fellow of the American Medical Association; for two years city physician and health officer of Anaconda, Mont.; for four years a teacher in the Philippine Islands, and after his graduation for two years assistant superintendent of the Montana State Hospital, Warm Springs; died in the Good Samaritan Hospital, Los Angeles, February 3.

DR. WILLIAM PHILIP SPRATLING, '86, aged 52, from 1894 to 1908 medical superintendent of the Craig Colony for Epileptics, Sonyea, N. Y., and later a practitioner of Baltimore, and professor of physiology and nervous diseases in the College of Physicians and Surgeons, Baltimore, from 1908 to 1909; formerly president of the National Association for the Study of Epilepsy; the author of a work on "Epilepsy and Its Treatment"; but for the last four years a resident of Welaka, Fla.; died in that place, December 22, from the effects of a gunshot wound accidentally self-inflicted while hunting.

DR. PHILO ANDERSON LUTZ, '86, aged 55, died at his home in Baltimore, November 12, from heart disease. He came to Baltimore a year ago from Harrisburg, Pa., to undergo treatment and later established his home

here. He was born in 1860 and was graduated from the College of Physicians and Surgeons in 1886 and practiced for many years in Harrisburg. He is survived by his widow, Mrs. Elizabeth S. Lutz, and two children—Martha Mildred Lutz and William R. Lutz. The funeral was held from his home, the Rev. D. E. Lyons conducting the service, and burial was in Woodlawn Cemetery.

718 Shuter St., MONTREAL, CANADA.

December 9, 1915.

DR. CHARLES EMIL BRACK, 500 E. 20TH STREET, Baltimore, Md.

As the father of Dr. J. McDowell Pritchett, I write to inform you that he died October 9, 1915, while at sea, and within 24 hours run of Avonmouth, which is the port for Bristol, England. My information is that he died from congestion of the lungs and heart failure. He was buried in Shirehampton cemetery, at Bristol, on October 13. He was very suddenly stricken, and died unconscious within a half hour, so I am informed. I have written to the city coroner of Bristol for a full and complete report of his inquest, but, as yet, have received nothing from him.

At the time of his death he was surgeon on the steamer *Principella*, but previous to that, for at least a year, he had been surgeon on a sister ship, *Campanello*, that carried soldiers from England to the Dardanelles, Malta and Alexandria, Egypt. Probably an extract from his letter to us might interest you, as he always esteemed you as a friend of his. Here is a part of it:

"I suppose you want to hear something of our doings since we left Avonmouth, England, in March, 1915. Well, I have certainly seen history in the making. I have seen (at close range) war in all its magnificence, and also in all its horrible results and suffering. I have seen the bombardment daily and nightly (for several days), by sixty-odd warships against the entrance of the Dardanelles. For four days we lay alongside of the battleship *Cornwallis* (less than 100 yards from her), and saw her rip up Atchi (or Ava) Baba Hill, seven miles away, with her 12-inch guns. The concussion and roar of the shells was pandemonious beyond words to describe.

"I saw the landing, under a deadly fire, of the Allied troops on the Gallipoli peninsula. I saw them drive the Turks and Germans back and install



themselves in their trenches. I saw and heard the night counter-attacks of the Turks to try and drive them back into the sea, but which failed every time. It reminded me of nothing so much as a magnificent display of fireworks, only death lurked in every fiery star of shell or shrapnel that exploded and lit up the midnight sky. The Turks used beacon bombs, which would burst over the Allied trenches, and burn for minutes with a most intense brilliance which lit up the landscape for long distances. And while thus lit up, they would open with their deadly batteries.

"Added to this, the immense searchlights of the warships, and the Turks, and the roar and bursting concussion of the big guns from the fleet, firing over our men shelling the Turks, with the incessant crackle of 150,000 rifles (like firecrackers) mixed in, and you can form a conception of what it was like.

"War is certainly magnificent (in a way), but also, most truly, is it Hell. I will not harrow your feelings with some of the sights of suffering and mutilation by the Turks, that I saw, but it is sad beyond compare. God knows war should end for all time once this terrible Armageddon is over with. And let us pray that it may be soon. There is nothing in history to compare to it. I do pray we may never run across a submarine. It seems awful to me, to think of sinking a ship like the *Lusitania*, full of women and children, without even giving them time to launch the boats. The man, or men, who can deliberately do a thing like that must truly be mad with blood-lust, and the desire to slay. Because such as that has no real influence on the final results, one way or another. Neither does it stop ships from sailing to and from the British Isles, for they come and depart just the same."

After an absence of more than a year our poor boy made us a flying visit to Montreal on September 17, remained with us until September 28, and sailed. I tried to get him not to return, as I felt that he had endangered his life long enough, besides the life was too strenuous. I could not persuade him, as he said it was a conscientious duty that he owed to his family, and to humanity as a surgeon, to keep the position. He was not well when he came, and found his wife seriously ill which disturbed him very much in mind, as he told me he never expected to see her alive again. He left us with a heavy and aching heart, though little did I think he

would die so soon, and so suddenly, after leaving us. If he had been conscious long enough to have left us some loving messages, or dying requests, it would have been comforting to us. He was suddenly stricken while at the dinner table, retired to the lavatory, and was found by the chief officer in great pain. He was asked what was the matter, and his reply was (as was his usual custom, never wanting to be a bother to anyone), "Oh, nothing. I will soon be all right." The officer summoned aid and they took him to his room and tried to restore him, but to no avail. His last words were: "Who is here? Oh, I can't see." Instantly he became unconscious and died within a half hour, so I am informed, verbally, but not officially. The chief officer was named Mordock, and a letter tells me that my son repeatedly said: "Mordock, whatever has come over me?" while Mr. Mordock was holding his hand.

I write you of his death because I knew you liked him, and would regret it. Our hearts are crushed and bleeding. He leaves his parents and a widow, but no children.

With a broken heart, I am,

Yours truly,

JOHN CALVIN PRICHETT.

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## Marriages.

DR. ELMER HOWARD, Anckley, Pittsburgh, Pennsylvania, was married to Miss Mary Elizabeth Walker, of Ford City, Pennsylvania, on January 19, 1916.

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## Correspondence.

JUST SOUTH OF THE "OLD MEDMEIN PAGODA,"

KUADA SUMPUN, FED. MALAY STATES,

October 22, 1915.

*Dearest Editors.*—Many thanks for your kindly words in the ALUMNI JOURNAL.

I wish you could all come out here on your way to Frisco.

It is a delightful place; interesting work; pleasant tropical climate; absolutely the very farthest East. Everything is different from the West, different even from tropical America. I shall probably become thoroughly orientalized.

Malay is the *lingua franca* out here and I am endeavoring to learn it.

Is it *requiescat en pace* with P. & S., or is it to live as a kind of tradition under the name of University of Maryland?

My family are researching on the farm in Virginia.

Kindest regards to you all.

Very sincerely,

SAMUEL T. DARLING.

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#### PHYLACOGEN IN PNEUMONIA.

Perhaps no disease has baffled medical treatment to a greater extent than has lobar pneumonia. It must be conceded that as yet there is no true specific for the disease. The mortality from this type of pneumonia is high as compared with that of other infectious diseases. In view of these facts, any agent that nearly approaches the specific in lobar pneumonia should be welcomed by the medical profession. Pneumonia phylacogen is believed to merit that distinction.

In the use of pneumonia phylacogen, as in that of the various other phylacogens, observance of certain details of administration may have an important bearing on the results. The product may be administered either subcutaneously or intravenously. The first dose should invariably be given subcutaneously. Injections should be made slowly—as slowly as possible, in fact. When injections are made hypodermatically the needle should not be allowed to enter the superficial fascia or muscular tissue. Certain patients, it has been found, do not absorb phylacogen, when subcutaneously administered, with sufficient rapidity to produce the desired effect. Such cases will usually respond promptly to small doses given intravenously.

Large initial doses should be avoided. One cc. will usually be suitable for the initial subcutaneous dose, and for debilitated persons it is well not to exceed  $\frac{1}{2}$  cc. The increase in dose should be gradual—usually  $\frac{1}{2}$  to 1 cc. per diem, depending upon the effect of the previous dose upon temperature and pulse-rate, and only when these have again become normal should another injection be made.

The initial intravenous dose, which should always be preceded by one or more doses subcutaneously, should not be more than  $\frac{1}{8}$  to  $\frac{1}{4}$  cc. (say 2 to 4 minims). Subsequently the dose may be increased by  $\frac{1}{8}$  to  $\frac{1}{2}$  cc. each day, according to the general indications, avoiding if possible the production of a marked constitutional reaction.

Pneumonia phylacogen, which is supplied in 10-cc. rubber-stoppered glass vials, is preserved with an antiseptic, and, with ordinary care, will not deteriorate as a consequence of exposure due to opening the vial. None of the material need therefore be wasted.

# THE MODERN TREATMENT OF PNEUMONIA.

Clinical reports show that the average duration and mortality are materially reduced by the use of

## PNEUMONIA PHYLACOGEN

if administered early in the disease.

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33. Southern Medical Journal.
34. Ophthalmoscope.
35. Zerschrift Urologie.
36. Journal of Obstetrics and Gynecology of the British Empire.
37. Dominion Medical Journal.
38. Old Dominion Monthly.
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